CHILDREN'S EDUCATION SOCIETY (Regd.)

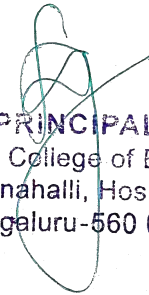Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi & Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section 2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail: engprincipal@theoxford.edu Web: www.theoxford.edu

Details of research papers published

Index

Sl. No	Particulars	Page. No
1	Summary	2
2	Research Paper published in 2022-2023	3

PRINCIPAL
The Oxford College of Engineering
Bommanahalli, Hosur Road
Bengaluru-560 068

Summary

In 2022-23 Academic Year, the faculty of The Oxford College of Engineering has published papers in various International Journals. There are total 112 International publications.

Sl. No	Academic Year	No. of Publication	
		National	**International**
1	**2022-23**	**0**	**112**

Scopus	SCI	Web of Science	Google Scholar	**Total**
78	16	1	17	**112**

Sl.NO	Title of paper	Name ofthe author/s	Department of the teacher	Name of journal	Year of public action	ISSN number	Link to websiteof the Journal	Link to article/paper/abstract of thearticle	Is it listed in UGC Care list/Scopus/ Webof Science/other, mention
1	OHAR: Optimized Human Action Recognition Paradigm using Optimized Type 2 Neuro-Fuzzy Classifier	Raghu Ramamoorthy	CSE	Periodico di Mineralogia	2022	0369-8963	https://periodicodimineralogia.it/	https://periodicodimineralogia.it/wp-content/uploads/2022/08/202291445.pdf	SCOPUS
2	Energy efficient routing with correlation based data transmission reduction in uasn	Raghu Ramamoorthy	CSE	Journal of Jilin University (Engineering and Technology Edition	2022	1671-5497	https://jilindaxuexuebao.net/details.php?id=DOI:10.17605/OSF.IO/6EA7S	https://jilindaxuexuebao.net/details.php?id=DOI:10.17605/OSF.IO/6EA7S	SCOPUS
3	Hybrid MultiHop Routing Mechanism with Intelligent Transportation System architecture for Efficient Routing in VANETs	Raghu Ramamoorthy	CSE	IEEE Xplore	2022	978-1-6654-6374-4	https://ieeexplore.ieee.org/document/10051361	https://ieeexplore.ieee.org/document/10051361	SCOPUS
4	Medical Assistance for Alzheimer's Disease Using Smart Specs	J Jesy Janet Kumari	CSE	IEEE Xplore	2022	2381-4128	https://ieeexplore.ieee.org/	https://ieeexplore.ieee.org/document/10057684	SCOPUS
5	IoT based Innovative Teaching Learning using Smart Class Rooms	Raghu Ramamoorthy	CSE	IEEE Xplore	2023	978-1-6654-9199-0	https://ieeexplore.ieee.org/document/10104589	https://ieeexplore.ieee.org/document/10104589	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi & Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section 2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail: engprincipal@theoxford.edu Web: www.theoxford.edu

Estd. 1974

6	Classification of COVID-19 with Belief Functions and Deep Neural Network	Raghu Ramamoorthy	CSE	SN Computer Science (Springer)	2023	2661-8907	https://www.springer.com/journal/42979	https://link.springer.com/article/10.1007/s42979-022-01593-0	SCOPUS
7	Reliable and Accurate Plant Leaf Disease Detection with Treatment Suggestions Using Enhanced Deep Learning Techniques	Raghu Ramamoorthy	CSE	SN Computer Science (Springer)	2023	2661-8907	https://www.springer.com/journal/42979	https://link.springer.com/article/10.1007/s42979-022-01589-w	SCOPUS
8	An Empirical Study on E-Commerce Site using Unique AI based Features and Data Science Tools	J Jesy Janet Kumari, Sathya M, Ramya Sri M	CSE	IEEE Xplore	2023	979-8-3503-0010-9	https://ieeexplore.ieee.org/	https://ieeexplore.ieee.org/document/10193110/	SCOPUS
9	An Empirical Study on E-Commerce Site using Unique AI based Features and Data Science Tools	Sathya M	CSE	IEEE Xplore	2023	979-8-3503-0010-9	https://ieeexplore.ieee.org/	https://ieeexplore.ieee.org/document/10193110/	SCOPUS
10	An Empirical Study on E-Commerce Site using Unique AI based Features and Data Science Tools	Ramya Sri M	CSE	IEEE Xplore	2023	979-8-3503-0010-9	https://ieeexplore.ieee.org/	https://ieeexplore.ieee.org/document/10193110/	SCOPUS
11	Prediction of Infant Growth using the Random Forest Algorithm	Vinotha D	CSE	IEEE Xplore	2023	979-8-3503-9927-1	https://ieeexplore.ieee.org/	https://ieeexplore.ieee.org/document/10182723	SCOPUS
12	IoT based Innovative Teaching Learning using Smart Class Rooms	Dr. E. Saravana Kumar	CSE	IEEE Xplore	2023	978-1-6654-9199-0	https://ieeexplore.ieee.org/document/10104589	https://ieeexplore.ieee.org/document/10104589	SCOPUS
13	Classification of COVID-19 with Belief Functions and Deep Neural Network	Dr. E. Saravana Kumar	CSE	SN Computer Science (Springer)	2023	2661-8907	https://www.springer.com/journal/42979	https://link.springer.com/article/10.1007/s42979-022-01593-0	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078①: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.①: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

14	Reliable and Accurate Plant Leaf Disease Detection with Treatment Suggestions Using Enhanced Deep Learning Techniques	Dr. E. Saravana Kumar	CSE	SN Computer Science (Springer)	2023	2661-8907	https://www.springer.com/journal/42979	https://link.springer.com/article/10.1007/s42979-022-01589-w	SCOPUS
15	A Comprehensive Study of LB Technique in Cloud Infrastructure	Dr. E. Saravana Kumar	CSE	SN Computer Science (Springer)	2023	2661-8907	https://www.springer.com/journal/42979	https://link.springer.com/article/10.1007/s42979-022-01588-x	SCOPUS
16	Performance Analysis of Rice Plant Diseases Identification and Classification Methodology	Dr. E. Saravana Kumar	CSE	Wireless Personal Communications (Springer)	2023	1572-834X	https://www.springer.com/journal/11277	https://doi.org/10.1007/s11277-023-10333-3	SCIE
17	Context Monitoring of Patients using Wireless Network	Dr.Vanaja Roseline	ISE	IEEE	2023	767-7788	https://ieeexplore.ieee.org/document/10134482	https://ieeexplore.ieee.org/document/10134482	SCOPUS
18	Optomechanical behaviour of optical sensor for measurement of Wagon weight at different speeds of the train	S Mishra, P Sharan, K Saara	ECE	Journal of Optics	2023	0974-6900	https://www.springer.com/journal/12596	https://link.springer.com/article/10.1007/s12596-022-01047-z#citeas	SCOPUS
19	Implementation of digital differentiator and digital integrator using quantum dot cellular automata	P Sharan, AM Upadhyaya, MS Manna	ECE	Journal of Optics	2023	0974-6900	https://www.springer.com/journal/12596	https://link.springer.com/article/10.1007/s12596-022-01083-9	SCOPUS
20	1-Dimensional Silicon Photonic Crystal Pressure Sensor for the Measurement of Low Pressure	RB Gowda, P Sharan, K Saara	ECE	Results in Optics	2023	2666-9501	https://www.sciencedirect.com/journal/results-in-optics	https://doi.org/10.1016/j.rio.2023.100352	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

21	The development of laboratory downscale rail-wheel test rig model with optical sensors	Preeta Sharan, Suchandana Mishra, Anup M Upadhayaya	ECE	Optical Fiber Technology	2023	2089-4864	https://www.sciencedirect.com/journal/optical-fiber-technology	https://doi.org/10.1016/j.yofte.2023.103287	SCI
22	Design and Development of Intelligent Ambulance Concept using AIML IOT and Human interface technologies	Dr Manju Devi,Vijayalakshmi V S, Iffat Fatima, Rashmi R ,Dr Suhasini V K,Dr Pavithra G	ECE	Journal of European chemical bulletin	2023	2063-5346	https://www.eurchembull.com/	https://www.eurchembull.com/uploads/paper/f88cf65b03a3b3d11e6b826bb46e4d31.pdf	SCOPUS
23	Analysis and Implementation of multimedia traffic based on IPV4-IPV6 tunneling	Jayaraj N, Dr.Sivakumar	ECE	IEEE	2023	1125-465	www.bvicam.ac.in	http://dx.doi.org/10.1109/IADCC.2015.7154864	GOOGLE SCHOLAR
24	Pre-current amplifier based trans-impedance amplifier for biosensors	Dr.Manju Devi	ECE	IJRES	2022	2089-4864	https://ijres.iaescore.com/index.php/IJRES/index	https://ijres.iaescore.com/index.php/IJRES/article/view/20442	SCOPUS
25	"Improved Surface Plasmo× Effect in Ag-based SPR Biosensor with Graphene and WS2:An Approach Towards Low Cost Urine-Glucose Detection, Plasmonics,	Dr.Preeta sharan	ECE	Plasmonics	2023	1557-1963	https://link.springer.com/article/10.1007/s11468-023-01945-3	I:10.1007/s11468-023-01945-3	SCIE

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078①: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.①: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

26	"Design of optical sensor for cancer prognosis prediction using artificial intelligence",	Dr.Preeta sharan	ECE	Journal of Optics	-2023	0974-6900	https://www.springer.com/journal/12596	https://link.springer.com/article/10.1007/s12596-023-01281-z#citeas	SCOPUS
27	Highly sensitive temperature sensor using one-dimensional Bragg Reflector for biomedical applications	Dr.Preeta sharan	ECE	Biomedical Engineering / Biomedizinische Technik	2023	1862-278X	https://www.degruyter.com/document/doi/10.1515/bmt-2022-0482/html?lang=en	https://doi.org/10.1515/bmt-2022-0482	SCI
28	"N× N Clos Digital Cross-Connect Switch Using Quantum Dot Cellular Automata (QCA). Computer Systems Science &amp;	Dr.Preeta sharan	ECE	Computer Systems Science and Engineering	2023	0267-6192	https://www.techscience.com/journal/csse	https://www.techscience.com/csse/v45n3/50733	SCOPUS
29	Women Safety Using Cloud Messaging Technology	Dr.V.Vijaya Kumari	ECE	Journal for Basic Sciences	2023	1006-8341	https://fzgxjckxxb.com/	https://drive.google.com/file/d/1TApg2Gp0JHoKo9nuivbOIJicZ5gQK7n9/view	SCOPUS
30	Bragg reflector one-dimensional multi-layer structure sensor for the detection of thyroid cancer cells	Preeta Sharan	ECE	TELKOMNIKA (Telecommunication Computing Electronics and Control)	2023	2302-9293	http://telkomnika.uad.ac.id/index.php/TELKOMNIKA/index	http://telkomnika.uad.ac.id/index.php/TELKOMNIKA/article/view/24282	SCOPUS
31	Comparative analysis and design of high-performance photonic crystal add–drop filter for optical switching	Preeta Sharan	ECE	Journal of Optics	2023	0972-8821	https://www.springer.com/journal/12596	https://link.springer.com/article/10.1007/s12596-022-01004-w	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

32	Two-Dimensional Photonic Crystal Biosensor Based on Gallium Arsenide Composite Semi-conductive Material for Diabetes Detection	Preeta Sharan	ECE	Plasmonic	2023	1557-1955	https://www.springer.com/journal/11468	https://link.springer.com/article/10.1007/s11468-023-01857-2	SCI
33	Numerical modelling of 1-dimensional silicon photonic crystal sensor for hydrostatic pressure measurement	Preeta Sharan	ECE	Zeitschrift für Naturforschung A	2023	1865-7109	https://www.degruyter.com/journal/key/zna/html	https://www.degruyter.com/document/doi/10.1515/zna-2022-0261/html	SCI
34	Design of Two-Dimensional Photonic Crystal Defect Microcavity Sensor for Biosensing Application	Preeta Sharan	ECE	Silicon	2023	1876-9918	https://www.springer.com/journal/12633	https://link.springer.com/article/10.1007/s12633-023-02448-w	SCI
35	Highly sensitive bimetallic-metal nitride SPR biosensor for urine glucose detection	Preeta Sharan	ECE	IEEE Transactions on NanoBioscience	2023	1558-2639	https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7728	https://ieeexplore.ieee.org/abstract/document/10049133	SCI
36	Effect of 2-D nanomaterials on sensitivity of plasmonic biosensor for efficient urine glucose detection	Preeta Sharan	ECE	Frontiers in Materials	2023	22968016	https://www.frontiersin.org/journals/materials	https://www.frontiersin.org/articles/10.3389/fmats.2022.1106251/full	SCI
37	Simulation and excitation analysis of nano aperture-array for surface plasmon based memory	Preeta Sharan	ECE	International Journal of Information Technology	2023	2511-2104	https://www.springer.com/journal/41870	https://link.springer.com/article/10.1007/s41870-022-01100-x	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

	applications								
38	Novel design of reversible latches using feynman gate and implementation of reversible combinational circuits	Preeta Sharan	ECE	International Journal of Information Technology	2023	2511-2104	https://www.springer.com/journal/41870	https://link.springer.com/article/10.1007/s41870-022-01082-w	SCOPUS
39	Real time implementation of fiber Bragg grating sensor in monitoring flat wheel detection for railways	Preeta Sharan	ECE	Engineering Failure Analysis	2023	1350-6307	https://www.sciencedirect.com/journal/engineering-failure-analysis	https://www.sciencedirect.com/science/article/abs/pii/S135063072200350	SCI
40	Novel soft-switching integrated various converter of ZVT-ZCT grid connected PV system	Nisha C Rani, Dr N Amuthan	EEE	Renewable Energy Focus	Sep2022	1755-0084.	https://www.sciencedirect.com/science/article/abs/pii/S1755008422000394?via%3Dihub	https://doi.org/10.1016/j.ref.2022 SN Computer Science.05.004	SCOPUS
41	Soft-Switching Integrated Quasi Resonance Buck-Boost Converter for HHO Optimized Grid Connected PV System	Nisha C Rani, Dr N Amuthan	EEE	SSRG International Journal of Electrical and Electronics Engineering,	2022	2348 - 8379	https://www.internationaljournalssrg.org/IJEEE/paper-details?Id=375	https://doi.org/10.14445/23488379/IJEEE-V9I8P104	SCOPUS
42	DC -AC –DC Converter for Renewable Energy Application	Ms Renuka S , Mrs Nisha C Rani	EEE	International Journal of Advanced Research in Electrical, Electronics	2022	Publication Frequency: 12 Issue per Year	www.ijareeie.com	http://www.ijareeie.com/upload/2022/july/6_DC%20-AC_NC_HARDCERT.pdf	GOOGLE SCHOLAR

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu
Estd. 1974

			and Instrumentati on Engineering (IJAREEIE)						
43	THD minimization of ZVT -ZCT Quasi Resonant SEPIC Converter with proposed Harris Hawks Optimization Technique	Nisha C Rani, Dr N Amuthan	EEE	IEEE Explore	2023	INSPEC Accessio×umber: 23318325	https://ieeexplore.ieee.org	https://ieeexplore.ieee.org/document/10112420	SCOPUS
44	Design and Analysis of Pressure Sensor based on Micro Hole Photonic Crystal Slab	Preetam Ambudkar;Anup M Upadhayaya;Preeta Sharan;Nisha C Rani	EEE	IEEE Explore	2023	INSPEC Accession Number: 23318396	https://ieeexplore.ieee.org	https://ieeexplore.ieee.org/document/10112526	SCOPUS
45	Closed Loop control of BLDC motor in Aircrafts for Flap angle Applications	Mrs.Resna S R	EEE	ijareeie	2022	2320-3765	http://www.ijareeie.com/	http://www.ijareeie.com/upload/2022/july/7_Closed_HARD%20CERT.pdf	GOOGLE SCHOLAR
46	Smart security System	Mrs.Resna S R	EEE	International journal for research trends and innovation	2022	2456-3315	https://www.ijrti.org/	https://www.ijrti.org/viewpaperforall?paper=IJRTI2207295	GOOGLE SCHOLAR
47	Power Loss Electrical Thermal Behaviour in EV Drive Train System	Karishma JM, Devi Vighneshwari & Sumitha T L	EEE	International journal for research trends and innovation	2022	2456-3315	www.ijareeie.com	https://www.ijert.org/research/power-loss-electrical-thermal-behaviour-in-ev-drivetrain-system-IJERTCONV10IS11089.pdf	GOOGLE SCHOLAR
48	Seven Level Multilevel Inverter with reduced switches using Novel Design	Latif Unnisa, Jayakumar N	EEE	International journal for research trends and innovation	2022	2456-3315	www.ijareeie.com	https://www.ijert.org/seven-level-multilevel-inverter-with-reduced-switches-using-novel-design	GOOGLE SCHOLAR

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

49	Space vector Pulse Width Modulation with 7 Level ANPC Converters for Capacitor Voltage Balancing	Resna S R	EEE	IEEE Explore	2023	979-8-3503-3624-5	https://ieeexplore.ieee.org/	https://ieeexplore.ieee.org/document/10117778	GOOGLE SCHOLAR
50	Processing and Characterization of Cu–10Sn/ZrO2 Alloys Processed Via Stir Casting Technique: Mechanical Properties and Wear Behavior Studies	Prasad H Nayak, M Ravi Prakash, V Vinay, HK Srinivas	Mechanical Engg.	International Journal of Metal casting	2022	19395981	https://www.springer.com/journal/40962	https://link.springer.com/article/10.1007/s40962-022-00812-x	SCIE
51	Micro-opto-electro-mechanical system based microcantilever sensor for biosensing applications	Anup M Upadhyaya, Preeta Sharan, Maneesh C Srivastava	Mechanical	Journal of the Optical Society of America B	2022	0740-3224	https://opg.optica.org/josab/home.cfm	https://opg.optica.org/josab/abstract.cfm?uri=josab-39-7-1736#:~:text=The%20benefits%20of%20optical%20sensing,and%20insensitivity%20to%20electromagnetic%20interferences	SCIE
52	Effect of Nano Zirconium Oxide(ZrO2) Particles Addition on the Mechanical Behaviour and Tensile Fractography of Copper-Tin(Cu-Sn) Alloy Nano Composites	Prasad H Nayak, Ravi Prakash M, HK Srinivas	Mechanical Engg.	Structural Integrity and Life	2022	1451-3749	http://divk.inovacionicentar.rs/ivk/home.html	http://divk.inovacionicentar.rs/ivk/ivk22/OF2203-12.html	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

53	Implementation of digital differentiator and digital integrator using quantum dot cellular automata	Anup M Upadhyaya, Preeta Sharan, Maneesh C Srivastava	Mechanical Engg.	Journal of Optics	2023	0974-6900	https://www.springer.com/journal/12596	https://link.springer.com/article/10.1007/s12596-022-01083-9	SCOPUS
54	High temperature erosion performance of NiCrAlY/Cr2O3/YSZ plasma spray coatings	GMS Reddy, CD Prasad, P Patil, G Shetty, N Kakur, MR Ramesh	Mechanical Engg.	Transactions of the IMF	2023	1745-9192	https://www.tandfonline.com/	https://www.tandfonline.com/doi/abs/10.1080/00202967.2023.2208899	SCI
55	Investigation of High-Temperature Erosion Behavior of NiCrAlY/TiO2 Plasma Coatings on Titanium Substrate	G Madhu Sudana Reddy, C Durga Prasad, Shanthala Kollur, Avinash Lakshmikanthan, R Suresh Kumar, CR Aprameya	Mechanical Engg.	Advanced Functional and Structural Thin Films and Coatings	2023	1543-1851	https://link.springer.com/article/10.1007/s11837-023-05894-4	https://link.springer.com/article/10.1007/s11837-023-05894-4	SCIE
56	Effects of Polypropylene Waste Addition as Coarse Aggregates in Concrete: Experimental Characterization and Statistical Analysis	D. C. Naveen,K. Naresh ,B. S. Keerthi Gowda ,Madhu Sudana Reddy G ,C. Durga Prasad,and Ragavanantham Shanmugam	Mechanical Engg.	Advances in Materials Science and Engineering	2023	1687-8434	https://www.hindawi.com/journals/amse/	https://www.hindawi.com/journals/amse/2022/7886722/	SCOPUS
57	Analysis and Design of MultiStory Building Using ETabs	Gayathri R	Civil Engineering	IJET	2022	2395-1303	http://www.ijetjournal.org/	http://www.ijetjournal.org/volume8/issue5/IJET-V8I5P12.pdf	GOOGLE SCHOLAR

CHILDREN'S EDUCATION SOCIETY (Regd.)|
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☏: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.☏: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

Estd. 1974

58	Seismic Behavior of High Rise Structure with Plan Irregularity	Shivanand C.G, Charan M Kudtarkar, Dhanyashree G.B, Prakash N	Civil Engineering	IJESC	2023	2321-3361	http://www.ijesc.org	https://drive.google.com/file/d/1erLdopyIcffGyVhJNnCpptyMfRquazVJ/view?usp=sharing	GOOGLE SCHOLAR
59	Seismic Response Of High Rise Structure With Vertical Irregularity	Shivanand C.G, Dhanyashree G B, Charan M Kudarkar	Civil Engineering	IJESC	2023	2321-3361	http://www.ijesc.org	https://drive.google.com/file/d/1SEPY1FhOv9Aeo2eupMindbULlz7r53_N/view?usp=sharing	GOOGLE SCHOLAR
60	Analysis and Design of MultiStory Building Using ETabs	Dr T S Malleshiah	Civil Engineering	IJET	2022	2395-1303	http://www.ijetjournal.org/	http://www.ijetjournal.org/volume8/issue5/IJET-V8I5P12.pdf	GOOGLE SCHOLAR
61	Construction Sequence Analysis of G+30 RCC, Steel Residential Building with Floating Column	Prashanth Hathwar T.S, Mohammad Rizwanuddin	Civil Engineering	IJERT	2023	2278-0181	https://www.ijert.org/	https://www.ijert.org/construction-sequence-analysis-of-g-30-rcc-steel-residential-building-with-floating-colum	GOOGLE SCHOLAR
62	Renewable energy based smart grid construction using Hybrid Design in Control System with enhancing of energy efficiency of electronic converters for power electronic in electric vehicles	Dr.Manjula C	MTE	International Transactions on Electrical Energy Systems	2022	2050-7038	https://www.hindawi.com/journals/itees	https://www.hindawi.com/journals/itees/2022/2986605/	SCIE
63	Interaction studies of flavonoids with Bcl-2 protein to re-activate apoptosis in JurkatT-cells by induced TRAIL	Manjunatha Bukkambudi Krishnaswamy, Valarmathy Kanagasabapathy, Divakara	Biotechnology	Asi Pacific Journal of Molecular Biology and Biotechnology	2022	0128-7451	http://www.msmbb.my/index.php/current-issue	https://doi.org/10.35118/apjmbb.2022.030.4.07	GOOGLE SCHOLAR

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078 ☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068. ☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu   Web: www.theoxford.edu

		Ramachandrap pa							
64	Antineoplastic Effects of Mucuna pruriens Against Human Colorectal Adenocarcinoma	Sagar Seetharamaiah, Vidya Shimoga Muddappa,Ma njunatha Bukkambudhi Krishnaswamy ,Rashmi Kanugodu Vasappa	Biotechnol ogy	Applied Biochemistry and Biotechnolog y	2023	0273-2289	https://www.springer.com/journal/12010	https://doi.org/10.1007/s12010-023-04598-4	SCI
65	Implementation and Image Transformation for Ground Penetration Image Radar System in Recent Trends in Communication and Intelligent Systems	Prof. Dharamvir	MCA	Springer Nature	2022	978-981-19-1323-5	https://link.springer.com/chapter/10.1007/978-981-19-1324-2_3	https://link.springer.com/chapter/10.1007/978-981-19-1324-2_3	SCOPUS
66	"Transformational Perceptive of Data Recorder for UAV Flight Automation Control System using Image Processing Techniques"	Prof. Dharamvir	MCA	IOP Publication Journal of Physics	2022	2335: 012016	https://iopscience.iop.org/	https://iopscience.iop.org/article/10.1088/1742-6596/2335/1/012016/meta	SCOPUS
67	A Comprehensive Study of Ceramic Matrix Composites for Space Applications	Prof. Dharamvir	MCA	Hindavi Publication	2022	1687-8434	https://doi.org/10.1155/2022/6160591	https://doi.org/10.1155/2022/6160591	SCOPUS
68	A Face Recognition Method In Machine Learning (ML) For Enhancing Security In Smart Home	Prof. Dharamvir	MCA	IEEE	2022	978-1-6654-3789-9/22/	https://ieeexplore.ieee.org/document/9823833	https://ieeexplore.ieee.org/document/9823833	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi & Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section 2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail: engprincipal@theoxford.edu Web: www.theoxford.edu

69	Circumstantial Discussion on Security and Privacy Protection using Cloud Computing Technology	Prof. Dharamvir	MCA	IEEE	2022	978-1-6654-3789-9/22/	https://ieeexplore.ieee.org/document/9823875	https://ieeexplore.ieee.org/document/9823875	SCOPUS
70	A Comprehensive Analysis of Internet of Things (IOT) Sustained Integrity System Services with Data Management Based ON Machine Learning	Prof. Dharamvir	MCA	IEEE	2022	978-1-6654-3789-9/22/	https://ieeexplore.ieee.org/document/9823431	https://ieeexplore.ieee.org/document/9823431	SCOPUS
71	IoT Implementation in Various Applications: A Detailed Review of Cyber Security Issues and Challenges	Prof. Dharamvir	MCA	IEEE Explore	2023	ISBN: 979-8-3503-9926-4	https://ieeexplore.ieee.org	https://ieeexplore.ieee.org/document/10183094/authors#authors	SCOPUS
72	IoT-Based Diagnosis and Recommendation System for Chronic Diseases Using Patient Health Records	Prof. Dharamvir	MCA	IEEE Explore	2023	ISBN: 979-8-3503-9926-5	https://ieeexplore.ieee.org	https://ieeexplore.ieee.org/document/10182640	SCOPUS
73	Face recognition using textual data classification and soft computing	Prof. Dharamvir, Dr. M S Shashidhara	MCA	European Chemical Bulletine	2022	ISSN 2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/a2960c3d0448dc32b85cdb8e236a30bf.pdf	SCOPUS
74	Market data analysis and application for assets computation and recommendation	Prof. Dharamvir, Gayathri S , Harish M, Dilip Kumar, Daniya Kouser, G Bharath	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/c8872e8232b0f0ba4aa734a1789fe9f3.pdf	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

75	Design development applications of iot based gas monitoring system	Prof. Dharamvir, Chandra Mohan Mahto, Babita Kumari, Irashad Ahmedsab Khazi, Gomedhika K, Meet Bundela	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/13f3282ac0173e1ef1af1adfa0349808.pdf	SCOPUS
76	Enhancing customer experience and trust in e-commerce applications through artificial intelligence and blockchain integration	Prof. Dharamvir, Chandrashekhara, Chethan Kumar N, Basavaraj, Benny Verghees V, Harish S	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/9cca6a5908425f1bd6dc5579426b471b.pdf	SCOPUS
77	Blockchain for computer-based intelligence: audit and open exploration difficulties	Prof. Dharamvir, Deepika S, Bhavani M, C Swathi, Bhavana A, Gopinath A	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/de5f575f72d517c59b3a44109bae3b8e.pdf	SCOPUS
78	Fake news detection using python	Prof. Dharamvir	MCA	IJHS	2022	2550-696X	https://sciencescholar.us/journal	https://sciencescholar.us/journal/index.php/ijhs/article/view/9537	SCOPUS
79	Application Of Artificial Intelligence (AI) Framework In Human Resource Management	Prof. Dharamvir	MCA	The British Journal of Administrative management	2022	1746 – 1278	https://tbjam.org	https://tbjam.org/vol58-special-issue-02/	GOOGLE SCHOLAR

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078℡: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.℡: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu   Web: www.theoxford.edu

80	Role of cloud computing for improvement in health care services	Dr Puja Shashi	MCA	International Journal of Recent Technology and Engineering (IJRTE)	2022	2277-3878	https://doi.org/10.35940/ijrte.2277-3878	https://www.ijrte.org/portfolio-item/b71330711222/	SCOPUS
81	Parkinson's Disease Detection Using Machine Learning	Prof. Dr Puja Shashi, Ambika Chatra,Archana M,Arshiya Tara S,Ashik ED, Ashwini J	MCA	European Chemical Bulletin	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/ca3e02eb6e5c4d7f5ce3e7ec5bb8c96e.pdf	SCOPUS
82	A COMPREHENSIVE FARMING APPLICATION WITH DJANGO	Dr. Puja Shashi , Ashok Kumar, Anitha H, Abhilash Tripathy, Anil Kumar Mishra, Ankur Kumar	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/farmtech360-a-comprehensive-farming-application-with-django-13680	SCOPUS
83	"CardioSentinel: Leveraging Machine Learning and Wearable Technology for Early Detection of Heart Disease"	Dr. Puja Shashi, Arvind Kumar V, Ashoka A, A Jagadish, Amarnath Chikkayyanavar, Akshay kumar	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/cardiosentinel-leveraging-machine-learning-and-wearable-technology-for-early-detection-of-heart-disease-13705	SCOPUS
84	A Semantically Improved Marginalization Denoising Auto Encoder is Used to Detect Cyberbullying	JC Achutha	MCA	Chinese Journal of Geotechnical Engineering (Scopus-Q2); Volume 44 Issue 8 Year 2022.	2022	10004548	http://ytgcxb.periodicales.com/index.php/CJGE	http://ytgcxb.periodicales.com/index.php/CJGE/article/view/148	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu   Web: www.theoxford.edu

85	Operational Efficiency Improvement of Power Grid by Improving MPPT Charge Controller	JC Achutha	MCA	Chinese Journal of Geotechnical Engineering Volume 44 Issue 8 Year 2022	2022	10004548.	http://ytgcxb.periodicales.com/index.php/CJGE	http://ytgcxb.periodicales.com/index.php/CJGE/article/view/138	SCOPUS
86	A comprehensive Review on power Consumption with Applied deep Analytics	JC Achutha	MCA	Journal of Optoelectronics Laser/Volume 41, Issue 6,Page no.496-506	2022	1303-5150	http://www.gdzjg.org/index.php/JOL/index	http://www.gdzjg.org/index.php/JOL/article/view/548	SCOPUS
87	DESIGN AND DEVELOPMENT OF MICRO GRID-BASED NETWORKS FOR DEMAND MANAGEMENT SYSTEM USING NEURAL NETWORK	JC Achutha	MCA	Harbin Gongye Daxue Xuebao/Journal of Harbin Institute of Technology, Volume 54,Issue 3, Page no. 147-157	2022	0367-6234	http://hebgydxxb.periodicales.com/index.php/JHIT/about	http://hebgydxxb.periodicales.com/index.php/JHIT/article/view/919	SCOPUS
88	Enhancing the Naïve Bayes Spam Filter through Intelligent Text Modification Detection	Mridula Shukla	MCA	TELEMATIQUE	2022	1856-4194	https://www.provinciajournal.com/	https://www.provinciajournal.com/index.php/telematique/article/view/211	G0OGLE SCHOLAR
89	MELOSENSE: MELODIES BASED ON EMOTION USING AUTOMATIC FACIAL EXPRESSION ANALYSIS	Prof. Liya Naiju, Vijay Kumar K, Rollapati Giri Prasad Reddy, Challa Nagendra Babu, Kovilampati Ashok,	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/uploads/paper/7ed55c396cc68738b648d103c26531ae.pdf	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

		Udayendu panigrahi							
90	ENHANCING EFFICIENCY AND RESPONSE TIME IN RPADSIDE EMERGENCIES	Prof.Liya Naiju,Suraksha B,Surya kumar K,Tharun N,Vikas SN,Vinay L	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/enhancing-efficiency-and-response-time-in-roadside-emergencies-13670	SCOPUS
91	A SOCIAL MEDIA PLATFORM FOR FOOD ENTHUSIASTS FOR SHARING AND EXPLORING RECIPES	Prof.Liya Naiju,Thushan IL,Sushma M,Thejus UM,Tulasi B,Yashawini R	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/foodzest-a-social-media-platform-for-food-enthusiasts-for-sharing-and-exploring-recipes-13672	SCOPUS
92	MACHINE LEARNING FOR DETECTING FINGERPRINT SPOOFING	Prof.Liya Naiju,Tejus M,Shourya Gowda KV ,Yadav SG,Swathi MK,Vaidhyanath AV	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/machine-learning-for-detecting-fingerprint-spoofing-13678	SCOPUS
93	Industry 4.O Adoption In Manufacturing Packaging Industry	Dr. Puja Shashi , Ajit kumar Tiwary, Ajeesh A , Abhishek GR ,M Akhilesh .	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/industry-4-o-adoption-in-manufacturing-packaging-industry-13707	SCOPUS
94	ECONOMIC ACTIVITY FRAUDS ARE DETECTED USING MACHINE LEARNING	Prof. Mridula Shukla, Sufiya Ali M, Srilakshmi C, Sowmya M,	MCA	European Chemical Bulletine	2022	2063-5346	- https://www.eurchembull.com	https://www.eurchembull.com/issue-content/economic-activity-frauds-are-detected-using-	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☎: 080-3041 0501 – 502
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.☎: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

		Shilpa N, Supriya V						machine-learning-13669	
95	IOT HOME AUTOMATION CONTROLLED USING ANDROID APP	Prof. Mridula Shukla, Sugumaran A, Sharmila Jansy P, Saudagar S, Shravankumar Yashavant Karigar, Sachin A	MCA	European Chemical Bulletin	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/iot-home-automation-controlled-using-android-app-13679	SCOPUS
96	"DRUG RECOMMENDER SYSTEM USING MACHINE LEARNING FOR SENTIMENT ANALYSIS OF DRUG REVIEWS "	"Prof. Mridula Shukla,Shwetha K,Shubham Nimbalakar,Sagar Madar,Sadhu Veera Mohan ,Sagar H M "	MCA	European Chemical Bulletine	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/drug-recommender-system-using-machine-learning-for-sentiment-analysis-of-drug-reviews-13669	SCOPUS
97	SMART STREET LIGHT SYSTEM	Ashok B P, ManojKumar Naragund, Mohan Kumar L, Lokesha H, ManojKumar G, Mohammed Safi Manna	MCA	European Chemical Bulletin	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/smart-street-light-system-13760	SCOPUS
98	TRANSFORMATIVE MANAGEMENT SYSTEMS FOR GATED COMMUNITIES	Ashok B P , Manikant Avargol, Keerthana C, Lekhana , Monika S , Madhushre	MCA	European Chemical Bulletin	2022	2063-5346	https://www.eurchembull.com	https://www.eurchembull.com/issue-content/transformative-management-systems-for-gated-communities-13758	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078☏: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi & Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section 2(f)) Bommanahalli, Hosur Road, Bangalore –560068.☏: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail: engprincipal@theoxford.edu Web: www.theoxford.edu

99	History and Development of Computerized Training in India	M S Shashidhara	MCA	TELEMATIQUE	2022	1856-4194	https://www.provinciajournal.com/	https://www.provinciajournal.com/index.php/telematique/article/view/405	WOS
100	Handling Big Data Using a Data-Aware HDFS and Evolutionary Clustering Technique	M S Shashidhara	MCA	Chinese Journal of Geotechnical Engineering (Scopus-Q2)	2022	1000-4548	http://ytgcxb.periodicales.com/index.php/CJGE/article/view/147	http://ytgcxb.periodicales.com/index.php/CJGE/article/view/147	SCOPUS
101	Analysis of Adversarial Attacks against Speaker Recognition System; Chinese Journal of Geotechnical Engineering	M S Shashidhara	MCA	Chinese Journal of Geotechnical Engineering (Scopus-Q2)	2022	1000-4548	http://ytgcxb.periodicales.com/index.php/CJGE/article/view/146	http://ytgcxb.periodicales.com/index.php/CJGE/article/view/146	SCOPUS
102	Application Of RBNN Method For Identification Of Thyroid Disease Cases Using Electro Photonic Images	M S Shashidhara	MCA	NVEO- Natural Volatiles & Essent. Oils	2022	2148-9637	https://www.nveo.org/index.php/journal/article/view/4577	https://www.nveo.org/index.php/journal/article/view/4577	SCOPUS
103	An empirical study on account receivables & account payables management at composite investments Pvt ltd, Bangalore	V Lakshmi Suneetha	MBA	Journal of Pharmaceutical Negative Results	2022	0976-9234	https://www.pnrjournal.com/index.php/home/issue/view/30	https://www.pnrjournal.com/index.php/home/article/view/4390	SCOPUS
104	Digital Marketing and Its Impact on the Consumer Behavior-A Study with Special reference to Select Cities	A. Sahana	MBA	Korea Review of International Studies,	2022	1226-4741	https://kristudies.org/volume-15-issue-38-september-2022/	https://kristudies.org/volume-15-issue-38-september-2022/	GOOGLE SCHOLAR

CHILDREN'S EDUCATION SOCIETY (Regd.)

Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078②: 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f) Bommanahalli, Hosur Road, Bangalore –560068.②: 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

105	Corrosion-Resistant Polyaniline-Coated Zinc Tungstate Nanocomposites with Enhanced Electric Properties for Electromagnetic Shielding Applications	C.H. Abdul Kadar	Physics	Macromolecular Research	2022	2092-7673	https://www.springer.com/journal/13233	https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART002877705	SCOPUS
106	Enhancing electromagnetic interference shielding effectiveness (EMI SE) of anticorrosive polypyrrole/zinc tungstate composites: multifunctional approach	C.H. Abdul Kadar	Physics	J Mater Sci: Mater Electron	2022	1573-482X	https://link.springer.com/article/10.1007/s10854-022-08348-w	https://doi.org/10.1007/s10854-022-08348-w	SCOPUS
107	Anticorrosive Polypyrrole/Barium Ferrite (PPy/BaFe12O19) Composites with Tunable Electrical Response for Electromagnetic Wave Absorption and Shielding Performance	C.H. Abdul Kadar	Physics	Journal of Electronic Materials	Jan 2023	0361-5235	https://www.springer.com/journal/11664	https://doi.org/10.1007/s11664-022-10179-8	SCOPUS
108	FEM Analysis of Railway Brake Disc for Safety of Train	H N Gayathri	Chemistry	IEEE Xplorer	2023	1803–7232	https://ieeexplore.ieee.org/Xplore/home.jsp	https://ieeexplore.ieee.org/document/10112430	SCOPUS
109	Design and simulation of a highly sensitive one-dimensional photonic crystal for different chemical sensing applications	H N Gayathri	Chemistry	Results in Optics	2023	2666-9501	https://www.sciencedirect.com/journal/results-in-optics	https://doi.org/10.1016/j.rio.2023.100376	SCOPUS

CHILDREN'S EDUCATION SOCIETY (Regd.)
Administrative Office:1st Phase JP Nagar, Bengaluru – 560 078 : 080-3041 0501 – 502

THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi &
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC-A & NBA New Delhi and Recognised by UGC Under Section
2(f)) Bommanahalli, Hosur Road, Bangalore –560068. : 080 -30219601/602, Fax: 080 – 25730551/ 30219629 E-mail:
engprincipal@theoxford.edu Web: www.theoxford.edu

110	Theoretical investigation of Bragg Reflector optical sensor for the measurement of cryogenic temperature	DR.H.N.GAY ATHRI	Chemistry	Materials today	2022	2214-7853	https://www.sciencedirect.com/journal/materials-today-proceedings	https://doi.org/10.1016/j.matpr.2022.02.482	SCOPUS
111	Enhancement of Meta Verse Capabilities by IoT Integration	Vivek Veeraiah, Dr. Gangavathi P,Dr. Gangavathi P	Mathematics	IEEE	2022	978-1-6654-3789-9/22/	https://ieeexplore.ieee.org/Xplore/home.jsp	https://ieeexplore.ieee.org/document/9823766	GOOGLE SCHOLAR
112	Influence of Nanomaterial Coated Condensing Surface on the Productivity of Evacuated Tube Assisted Solar Still	P.Gangavathia G.RamyabM.S.Karunac	Mathematics	Materials today	2022	2214-7853	https://www.sciencedirect.com/science/article/pii/S2214785322049185?via%3Dihub	https://doi.org/10.1016/j.matpr.2022.07.285	SCOPUS

PRINCIPAL
The Oxford College of Engineering
Bommanahalli, Hosur Road
Bengaluru-560 068

OHAR: Optimized Human Action Recognition Paradigm using Optimized Type 2 Neuro-Fuzzy Classifier

DR. J.A. SMITHA[1,*], RAGHU RAMAMOORTHY[2] AND DR. R CHINA APPALA NAIDU[3]

[1]*Professor, Department of Computer Science and Engineering, Sri Sairam College of Engineering, Bengaluru, Karnataka, India, (smithajeyakumar37@gmail.com)*

[2]*Assistant Professor, Department of Computer Science and Engineering, The Oxford College of Engineering, Bengaluru, Karnataka, India, 560 068. (raghuace85@gmail.com)*

[3]*Professor and Head, Department of Computer Science and Engineering, The Oxford College of Engineering, Bengaluru, Karnataka, India, 560 068 (chanr789@gmail.com).*

[*] *Corresponding author: DR. J.A. SMITHA*

Abstract

Human activity recognition (HAR) is made to identify actions and goals of persons one or more from the images which contain sequence of actions related on environments and actions. However, different issues and challenges are increased in the applications of human activity recognition for improving detection accuracy with different activities. Hence, Optimized Human Action Recognition Paradigm (OHAR) is developed. In the paper, optimized type 2 fuzzy classifier is designed to classify human actions from the image database. The input video is transformed into multiple region in the initial stage. The collected frames are sent to the pre-processing stage for removing noise from frames. After that, the key frame is selected from the image frames by using the Structural Similarity Index (SSIM). Once key frames are selected, the three feature extraction methods are utilized like Space-Time Interest (STI) points, grid shape feature, and coverage factor. Finally, the proposed classifier is proceeding to human activity recognition with selected features set. Here, an optimized type 2 neuro-fuzzy classifier is used for detecting human action. The proposed classifier is enhanced Rider optimization algorithm (ROA). The presentation of proposed method is evaluated based on statistical computations such as accuracy, sensitivity, specificity, recall, and F_Score.

Key Words: *Human actions, Fuzzy classifier, Actions, Fuzzy rules, Riders and Membership functions.*

Introduction

Human activity recognition is fascinated research from together industry and researchers in human-computer interaction, human behaviour analysis, and ubiquitous computing. Human activity recognition is used in different real-time applications like indoor navigation, military, tactical, gaming, and healthcare to personal fitness [1]. Two major types are available in human activity detection such as wearable sensors and systems. In sensor-based detection, wearable sensors can be connected to human body, and human activity is interpreted into exact sensor signal designs that is identified as well as segmented [2]. In major cases, environmental devices needed an installation device in addition human activity translated like cameras can be utilized as invasive devices particularly through ageing people. Due to the reasons, human activity recognition has been considered important research with the utilization of wearable sensors [3].

Manuscript Title:

ENERGY EFFICIENT ROUTING WITH CORRELATION BASED DATA TRANSMISSION REDUCTION IN UASN

Author:

BUDDESAB, REKHA .P, RAGHU RAMAMOORTHY, SARAVANA KUMAR .E

About the author(s)

1. BUDDESAB - Department of Computer Science and Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India.
2. REKHA .P - Department of Computer Science and Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India.
3. RAGHU RAMAMOORTHY - Department of Computer Science and Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India.
4. SARAVANA KUMAR .E - Department of Computer Science and Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India.

Full Text : [PDF](PDF)

Abstract

Under water Acoustic Sensor Networks (UASN) is a kind of wireless sensor networks deployed inside water for various applications like pipe line monitoring, under water aquatic life monitoring. Energy efficiency and reliability are two important challenges in UASN. This work proposes a energy efficient routing in UASN based on the concept of 3D cubes. The proposed solution conserves energy using the concept of clustering and aggregation. Further as extension, we implement a correlation based avoidance of unnecessary forwards. Due to this energy consumption is further reduced in UASN.

Keywords

EGRCs, efficient scheduling, Autonomous Underwater Vehicles, UASN.

References

References is not available for this document.

Institutional Sign In

Browse ∨   My Settings ∨   Help ∨

Institutional Sign In

All ▼

🔍

ADVANCED SEARCH

Hybrid MultiHop Routing Mechanism with Intelligent Transportation System architecture for Efficient Routing in VANETs

Publisher: IEEE

Cite This

📄 PDF

Raghu Ramamoorthy ; Saravana Kumar E ; R Ch A Naidu ; Sathya M   **All Authors** •••

55
Full
Text Views

Ⓡ 🔗 © 🗁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed Hmrm-Its Architecture

IV. Simulation Results

V. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

📄 Downl PDF

Abstract: Intelligent Transportation Systems (ITS) are required for efficient vehicle communication in the smart city. The goal of ITS was to provide a broad range of services in t... **View more**

▸ **Metadata**

Abstract:

Intelligent Transportation Systems (ITS) are required for efficient vehicle communication in the smart city. The goal of ITS was to provide a broad range of services in transportation, safety, comfort, commercial, mobility, and connectivity applications. In this era, road traffic is a major annoyance. The provision of real-time traffic information to drivers, in conjunction with a navigation system, can enable vehicles to choose the best route. To support ITS, this work proposes a Hybrid Multi-hop Routing Mechanism with Intelligent Transportation System (HMRM-ITS) for efficient communication among vehicles in vehicular ad hoc networks (VANETs). The proposed HMRM-ITS employs the multi-hop routing concept to enable vehicles to improve their driving performance and road safety. Furthermore, the proposed HMRM-ITS allows the transportation organization to communicate instantly between vehicles to Road-Side Units (RSUs), as well as vehicles-traffic servers in an efficient manner. The proposed mechanism enhanced the complete spatial use of a road network by lowering average travel costs of vehicles with a 5-10 $^{\%}$ reduction in traffic overhead over existing mechanisms. Additionally, the HMRM-ITS outperforms existing mechanisms in the form of packet transmission delay and throughput.

Loading [MathJax]/extensions/MathMenu.js

References

References is not available for this document.

Institutional Sign In

Institutional Sign In

All

Q

ADVANCED SEARCH

Medical Assistance for Alzheimer's Disease Using Smart Specs

Publisher: IEEE   Cite This   📄 PDF

Seema Patil ; T Shobha ; J Jesy Janet Kumari ; Ruksar Khanum ; Ruzaina Anjum ; Sneha Manjunath ; Suriya Jan   **All Authors** •••

66
Full
Text Views

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. System Architecture and Methodlogy

III. Results and Discussion

IV. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: The Internet of Things (IoT) has firmly established itself as a popular technology. It strives to make it easier for people across domains to live an "Easy & Smart" lifes... **View more**

▸ **Metadata**
Abstract:
The Internet of Things (IoT) has firmly established itself as a popular technology. It strives to make it easier for people across domains to live an "Easy & Smart" lifestyle. Machine vision and artificial intelligence (AI) are the sources of the idea of image recognition. Chronic illnesses, a catch-all phrase for conditions including Alzheimer's, Parkinson's, other types of dementia, cardiovascular disorders, and more, are on the rise. They come with challenges relating to ongoing supervision, care, and aid. Not everyone is prepared to handle the financial and ethical issues involving patients and their caretakers. Wearable IoT devices and AI offer a potential quick aid for dependable remote monitoring and help through ambient medical aid without jeopardizing the patient's confidentiality or privacy. The proposed work seeks to design a prototype that is inexpensive and provides pleasant patient healthcare. Concerning Alzheimer's, applications and IoT and AI devices are used to create a long-term fix. The patient will be able to recognize familiar people around them and capture knowledge for future reminders with the use of the proposed wearable camera-aided device in conjunction with a Bluetooth ear-complementary device. The AI component triggers constant reminders, which helps the patient stay more aware of their surroundings & situation.

Published in: 2022 4th International Conference on Circuits, Control, Communication and Computing (I4C)

☰ **Contents**

I. Introduction

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites

Subscribe

Subscribe   Cart   Create   Pers

Account   Sign

References

References is not available for this document.

Institutional Sign In

Browse ⌄   My Settings ⌄   Help ⌄

Institutional Sign In

All   ⌄

🔍

ADVANCED SEARCH

Conferences > 2023 International Conference... ❓

IoT based Innovative Teaching Learning using Smart Class Rooms

Publisher: IEEE | Cite This | 📄 PDF

M Ashwin. ;   E Saravana Kumar ;   R Ch A Naidu ;   Raghu Ramamoorthy   **All Authors** •••

29
Full
Text Views

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Literature Review

III. Materials and Methods

IV. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: Nowadays students are expected to learn the subject easily through IoT based innovative teaching learning process. The innovative teaching learning process is achieved th... **View more**

▸ **Metadata**

Abstract:

Nowadays students are expected to learn the subject easily through IoT based innovative teaching learning process. The innovative teaching learning process is achieved through smart class rooms. The smart class room is a classroom which fortified with hypermedia apparatuses aimed to improve teaching and knowledge. The main objective of smart class room is to create improved education and thoughtful through which the students can study their modules in smart method. The smart class room equipped with computers, LCD projectors, Laptops, DVD player, Video Cassette Recorder (VCR), Laptop cart (Podium), White board, Microphones etc. The smart class room standards like interactive white board, smart acoustic, senteo collaborating reply structure, airliner digital tab, smooth manuscript camera which makes the class room as digital class rooms.

Published in: 2023 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS)

Date of Conference: 23-25 March 2023

Date Added to IEEE *Xplore*: 25 April 2023

▸ **ISBN Information:**

INSPEC Accession Number: 23001447

DOI: 10.1109/ICSCDS56580.2023.10104589

Publisher: IEEE

Conference Location: Erode, India

📋 Contents

I. Introduction

The present group of learner's utilized PCs, smart devices, laptops and other mobile devices which make the result with migration from traditional methods of teaching/learning process into IoT based smart class rooms. The smart teaching space results trust combined education tools with picturing trappings. This supports the students to help better meeting among learners and fosters precarious intelligent and profounder consideration. The Keen Lecture hall results integrate scheming, preparation, execution and provision for engaging instinctive and skill empowered collaborative education places. The smart class room solution is used to track student progress, customized

Download PDF

Original Research | Published: 23 January 2023

Classification of COVID-19 with Belief Functions and Deep Neural Network

E. Saravana Kumar ✉, P. Ramkumar, H. S. Naveen, Raghu Ramamoorthy & R. Ch. A. Naidu

926 Accesses | Metrics

Abstract

At present, the entire world has suffered a lot due to the spike of COVID disease. Despite the world has been developed with so much of technology in the domain of medicine, this is a very huge challenge in all over the world. Though, there is a rapid development in medical field, those are not even sufficient to diagnose the symptoms of this COVID in earlier stage. Since the spread of this disease in all over the world, it affects the livelihood of the human. Computed Tomography (CT) images have given necessary data for the radio diagnostics to detect the COVID cases. Therefore, this paper addressed about the classification techniques to diagnose about the symptoms of this virus with the help of belief function with the support of convolution neural networks. This method initially extracts the features and correlates the features with the belief maps to decide about the classification. This research work would provide classification of more accuracy than the earlier research. Therefore, compared with the traditional deep learning method, this proposed procedure would be more efficient with desirable results achieved for accuracy as 0.87, an F1 of 0.88, and 0.95 as AUC.

> **Working on a manuscript?**
> Avoid the common mistakes →

Introduction

Many Wuhan-area hospitals have been reporting cases of unexplained pneumonia since December 2019 among patients who had previously visited a massive seafood market in the city. A novel coronavirus has been found to be the cause of this severe respiratory infection. After a few clusters of instances and confirmed cases appeared outside of Wuhan, it was evident that the sickness had spread outside the city limits [1]. Additional confirmed cases without obvious contact to Wuhan's fish market have been widely publicised

Reliable and Accurate Plant Leaf Disease Detection with Treatment Suggestions Using Enhanced Deep Learning Techniques

Raghu Ramamoorthy ✉, E. Saravana Kumar, R. Ch. A. Naidu & K. Shruthi

Abstract

For agriculture to be sustainable, it is essential to monitor a plant's health and look for diseases. It is quite challenging to manually monitor plant diseases. To improve the plant lifetime, plant disease must be effectively identified. Several diseases cause the plant's leaves to die. In some cases, farmers face issues in finding the type of leaf disease as well as its future symptoms. The proposed plant leaf disease detection scheme uses enhanced deep learning techniques to find causes of leaf disease and offer treatment suggestions. The proposed work relies on Tensor Flow to identify illnesses in plant leaf pictures. The proposed approach is trained with the convolution neural network to automatically diagnose disease using the object detection API tensor flow. In order to treat the sickness, the proposed effort will also identify the causes and symptoms of the illness. In the proposed work, advanced deep learning models based on particular convolutional neural network topologies were created to recognize plant diseases using photos of healthy or diseased plants' leaves. In comparison to existing models, the proposed model offers a 95% accuracy level for detecting disease leaves.

Access options

Buy article PDF	Rent this article via DeepDyve.
39,95 €	
Price includes VAT (India)	
Instant access to the full article PDF.	

Learn more about Institutional subscriptions

References

References is not available for this document.

Institutional Sign In

Browse ∨   My Settings ∨   Help ∨

Institutional Sign In

All   ▼

🔍

ADVANCED SEARCH

Conferences > 2023 4th International Confer... ❓

An Empirical Study on E-Commerce Site using Unique AI based Features and Data Science Tools

Publisher: IEEE   **Cite This**   📄 **PDF**

J Jesy Janet Kumari ; Aniket Singh ; R. Ch. A. Naidu ; M Sathya ; M Ramya Sri   **All Authors** •••

33
Full
Text Views

Ⓡ   🔗   ©   📂   🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed Work

IV. Discussion

V. Conclusion

Loading [MathJax]/extensions/MathZoom.js

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: With the advancement of modern-day techniques in the field of Information Technology, the way of shopping through E-Commerce site is becoming outdated. There are two ways... **View more**

▶ **Metadata**

Abstract:
With the advancement of modern-day techniques in the field of Information Technology, the way of shopping through E-Commerce site is becoming outdated. There are two ways through which an individual can do shopping first is the online method and second is the offline one in today's world online shopping by having more variety of products available on individual platform with easy way of shopping because of this day by day the retailers with offline method are facing challenges to increase their sales and obtaining data of demanding products that are available in the market, now with the growth of artificial intelligence, they can use lot of beneficiary tools to boost their business. If a giant next generation E-Commerce site is made with which we can connect all the wholesalers, retailers and customers with their own point of profits, then it can bring a new revolution in the market where there will be different layers will be available with separate user friendly graphic user interface for all wholesalers, retailers and customers, where they will be allowed to access their own layers accordingly with several unique features and benefits to save time and making shopping more amazing for customers and selling their products and boosting daily sales for the retailers with the influence of top wholesalers available to help them with the unique kind of trading system and daily analytics and progress report using data science.

Published in: 2023 4th International Conference on Electronics and Sustainable Communication Systems (ICESC)

Date of Conference: 06-08 July 2023

Date Added to IEEE *Xplore*: 01 August 2023

▶ **ISBN Information:**

INSPEC Accession Number: 23516445

DOI: 10.1109/ICESC57686.2023.10193110

Publisher: IEEE

Conference Location: Coimbatore, India

All ▾

🔍

ADVANCED SEARCH

An Empirical Study on E-Commerce Site using Unique AI based Features and Data Science Tools

Publisher: IEEE   Cite This   📄 PDF

J Jesy Janet Kumari ; Aniket Singh ; R. Ch. A. Naidu ; M Sathya ; M Ramya Sri   **All Authors** •••

33
Full
Text Views

Ⓡ   🔗   ©   📁   🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed Work

IV. Discussion

V. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: With the advancement of modern-day techniques in the field of Information Technology, the way of shopping through E-Commerce site is becoming outdated. There are two ways... **View more**

▶ **Metadata**

Abstract:

With the advancement of modern-day techniques in the field of Information Technology, the way of shopping through E-Commerce site is becoming outdated. There are two ways through which an individual can do shopping first is the online method and second is the offline one in today's world online shopping by having more variety of products available on individual platform with easy way of shopping because of this day by day the retailers with offline method are facing challenges to increase their sales and obtaining data of demanding products that are available in the market, now with the growth of artificial intelligence, they can use lot of beneficiary tools to boost their business. If a giant next generation E-Commerce site is made with which we can connect all the wholesalers, retailers and customers with their own point of profits, then it can bring a new revolution in the market where there will be different layers will be available with separate user friendly graphic user interface for all wholesalers, retailers and customers, where they will be allowed to access their own layers accordingly with several unique features and benefits to save time and making shopping more amazing for customers and selling their products and boosting daily sales for the retailers with the influence of top wholesalers available to help them with the unique kind of trading system and daily analytics and progress report using data science.

:= **Contents**

Browse ⌄   My Settings ⌄   Help ⌄   Institutional Sign In

Institutional Sign In

All   ▼

🔍
ADVANCED SEARCH

Conferences > 2023 4th International Confer... ❓

An Empirical Study on E-Commerce Site using Unique AI based Features and Data Science Tools

Publisher: **IEEE**   **Cite This**   📄 **PDF**

Dept. of CSE, The Oxford College of Engineering, Bangalore, India

J Jesy Janet Kumari ; Aniket Singh ; R. Ch. A. Naidu ; M Sathya ; M Ramya Sri   **All Authors** •••

33
Full
Text Views

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts
Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed Work

IV. Discussion

V. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: With the advancement of modern-day techniques in the field of Information Technology, the way of shopping through E-Commerce site is becoming outdated. There are two ways... **View more**

▶ Metadata

Abstract:

With the advancement of modern-day techniques in the field of Information Technology, the way of shopping through E-Commerce site is becoming outdated. There are two ways through which an individual can do shopping first is the online method and second is the offline one in today's world online shopping by having more variety of products available on individual platform with easy way of shopping because of this day by day the retailers with offline method are facing challenges to increase their sales and obtaining data of demanding products that are available in the market, now with the growth of artificial intelligence, they can use lot of beneficiary tools to boost their business. If a giant next generation E-Commerce site is made with which we can connect all the wholesalers, retailers and customers with their own point of profits, then it can bring a new revolution in the market where there will be different layers will be available with separate user friendly graphic user interface for all wholesalers, retailers and customers, where they will be allowed to access their own layers accordingly with several unique features and benefits to save time and making shopping more amazing for customers and selling their products and boosting daily sales for the retailers with the influence of top wholesalers available to help them with the unique kind of trading system and daily analytics and progress report using data science.

Published in: 2023 4th International Conference on Electronics and Sustainable Communication Systems (ICESC)

≡ **Contents**

References

References is not available for this document.

Institutional Sign In

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites   Subscribe   Subscribe   Cart   Create   Perso

Account   Sign

Browse ⌄   My Settings ⌄   Help ⌄   Institutional Sign In

Institutional Sign In

All ⌄

🔍

ADVANCED SEARCH

References

References is not available for this document.

Prediction of Infant Growth using the Random Forest Algorithm

Publisher: IEEE   **Cite This**   📄 **PDF**

T. Saravanan ; S Saravanakumar ; Srinivas Dandu ; D Vinotha ; Ahmed Karim Kadhim ; Haider Al-Chlidi   **All Authors** •••

Ⓡ ⤴ © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Related Work

III. Random Forest Algorithm

IV. Methodology

V. Experimental Result

Show Full Outline ⌄

Authors

Figures

References

Keywords

Metrics

More Like This

Footnotes

📄
Downl
PDF

Abstract: Every parent is curious about their child's internal and exterior development. Childhood is the first stage of a person's existence. To comprehend and better explain many... **View more**

▾ **Metadata**

Abstract:

Every parent is curious about their child's internal and exterior development. Childhood is the first stage of a person's existence. To comprehend and better explain many elements of action, including the emotional, physical, social, intellectual, perceptual, and personality development, extensive research has been done in the past. Child development analysis is a scientific approach to evaluate growth, change, and stability. By learning more about how and why individuals develop and grow, one may better understand and meet a child's needs, allowing them to realize their full potential. Child development has a broad scope and a general purpose. However, just a few studies on early childhood development have been conducted. The project's objective is to use machine learning algorithm to forecast a child's future learning behavior and talents using a random forest algorithm and data-mining approach.

📋 **Contents**

I. Introduction

The scientific study of the patterns of growth, change, and stability that occur from conception through puberty is known as child development. It explains how a youngster develops the ability to perform complicated tasks as he grows older [1]. Child development research is essential in a variety of fields,

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites

Subscribe

Subscribe   Cart   Create   Pers

Account   Sign

References

References is not available for this document.

Institutional Sign In

Browse ⌄   My Settings ⌄   Help ⌄

Institutional Sign In

All

Q

ADVANCED SEARCH

IoT based Innovative Teaching Learning using Smart Class Rooms

Publisher: IEEE   Cite This   📄 PDF

M Ashwin. ; E Saravana Kumar ; R Ch A Naidu ; Raghu Ramamoorthy   **All Authors** •••

29
Full
Text Views

Ⓡ 📤 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Literature Review

III. Materials and Methods

IV. Conclusion

Authors

Loading [MathJax]/extensions/MathZoom.js

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: Nowadays students are expected to learn the subject easily through IoT based innovative teaching learning process. The innovative teaching learning process is achieved th... **View more**

▶ **Metadata**

Abstract:
Nowadays students are expected to learn the subject easily through IoT based innovative teaching learning process. The innovative teaching learning process is achieved through smart class rooms. The smart class room is a classroom which fortified with hypermedia apparatuses aimed to improve teaching and knowledge. The main objective of smart class room is to create improved education and thoughtful through which the students can study their modules in smart method. The smart class room equipped with computers, LCD projectors, Laptops, DVD player, Video Cassette Recorder (VCR), Laptop cart (Podium), White board, Microphones etc. The smart class room standards like interactive white board, smart acoustic, senteo collaborating reply structure, airliner digital tab, smooth manuscript camera which makes the class room as digital class rooms.

Published in: 2023 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS)

Date of Conference: 23-25 March 2023

Date Added to IEEE *Xplore*: 25 April 2023

▶ **ISBN Information:**

INSPEC Accession Number: 23001447

DOI: 10.1109/ICSCDS56580.2023.10104589

Publisher: IEEE

Conference Location: Erode, India

☰ **Contents**

I. Introduction
The present group of learner's utilized PCs, smart devices, laptops and other mobile devices which make the result with migration from traditional methods of teaching/learning process into IoT based

Download PDF

Original Research | Published: 23 January 2023

Classification of COVID-19 with Belief Functions and Deep Neural Network

E. Saravana Kumar ✉, P. Ramkumar, H. S. Naveen, Raghu Ramamoorthy & R. Ch. A. Naidu

Abstract

At present, the entire world has suffered a lot due to the spike of COVID disease. Despite the world has been developed with so much of technology in the domain of medicine, this is a very huge challenge in all over the world. Though, there is a rapid development in medical field, those are not even sufficient to diagnose the symptoms of this COVID in earlier stage. Since the spread of this disease in all over the world, it affects the livelihood of the human. Computed Tomography (CT) images have given necessary data for the radio diagnostics to detect the COVID cases. Therefore, this paper addressed about the classification techniques to diagnose about the symptoms of this virus with the help of belief function with the support of convolution neural networks. This method initially extracts the features and correlates the features with the belief maps to decide about the classification. This research work would provide classification of more accuracy than the earlier research. Therefore, compared with the traditional deep learning method, this proposed procedure would be more efficient with desirable results achieved for accuracy as 0.87, an F1 of 0.88, and 0.95 as AUC.

Working on a manuscript?
Avoid the common mistakes →   ▤

Introduction

Many Wuhan-area hospitals have been reporting cases of unexplained pneumonia since December 2019 among patients who had previously visited a massive seafood market in the city. A novel coronavirus has been found to be the cause of this severe respiratory infection. After a few clusters of instances and confirmed cases appeared outside of Wuhan, it was evident that the sickness had spread outside the city limits [1]. Additional confirmed cases without obvious contact to Wuhan's fish market have been widely publicised

Home > SN Computer Science > Article

Original Research | Published: 11 January 2023

Reliable and Accurate Plant Leaf Disease Detection with Treatment Suggestions Using Enhanced Deep Learning Techniques

Raghu Ramamoorthy ✉, E. Saravana Kumar, R. Ch. A. Naidu & K. Shruthi

Abstract

For agriculture to be sustainable, it is essential to monitor a plant's health and look for diseases. It is quite challenging to manually monitor plant diseases. To improve the plant lifetime, plant disease must be effectively identified. Several diseases cause the plant's leaves to die. In some cases, farmers face issues in finding the type of leaf disease as well as its future symptoms. The proposed plant leaf disease detection scheme uses enhanced deep learning techniques to find causes of leaf disease and offer treatment suggestions. The proposed work relies on Tensor Flow to identify illnesses in plant leaf pictures. The proposed approach is trained with the convolution neural network to automatically diagnose disease using the object detection API tensor flow. In order to treat the sickness, the proposed effort will also identify the causes and symptoms of the illness. In the proposed work, advanced deep learning models based on particular convolutional neural network topologies were created to recognize plant diseases using photos of healthy or diseased plants' leaves. In comparison to existing models, the proposed model offers a 95% accuracy level for detecting disease leaves.

This is a preview of subscription content, access via your institution.

Survey Article | Published: 25 January 2023

A Comprehensive Study of LB Technique in Cloud Infrastructure

A. Ajil ✉ & E. Saravana Kumar

51 Accesses | **1** Citations | Metrics

Abstract

In the recent Web-based knowledge transfer, cloud computing is essential. The real world has been changed into a virtual one as a result of the pandemic scenario. Cloud computing plays a major role for storing and computing data using remote computing infrastructure for day-to-day activities. The primary concern in cloud computing is distributing information technology (IT) resources efficiently to record the user requests in a short duration. Load-balancing (LB) techniques distribute the system's load among its various nodes to maximize resource usage and user satisfaction. It identifies the heavy loaded and lightly loaded IT resources and balances the task among the clusters. Load balancing ensures that each node in the network shortens reaction times, utilizes optimal resource and boosts performance. To upgrade the performance metrics in cloud computing (CC), various categories of LB techniques have been developed. This survey evaluates the different categories of LB techniques based on general LB, nature inspired-based LB and hybrid LB. The researchers evaluated and tabulated the qualitative and quantitative metrics for LB techniques.

This is a preview of subscription content, access via your institution.

Performance Analysis of Rice Plant Diseases Identification and Classification Methodology

M. Tholkapiyan ✉, B. Aruna Devi, Dhowmya Bhatt, E. Saravana Kumar, S. Kirubakaran &
Ravi Kumar

318 Accesses │ **2** Citations │ Metrics

Abstract

Technological help can be used for improving the cultivation of critical crops
for optimal production and quality. Automatic plant disease detection is an
interesting study issue as it may be beneficial for the monitoring of vast
agricultural fields and thus the automatic identification of disease by the
symptoms in the various sections of plants. This work contributes an
automated diagnosis of different rice-related diseases utilizing image
processing, deep learning, machine learning, and methods for meta-heuristic
optimization. These measures include picture dataset size, class numbers,
preprocessing procedures, classification approaches, performance analysis, etc.
Researches from the previous decade are extensively reviewed, including
studies on numerous rice plant diseases, and an investigation of the key
features is provided. The survey provides insights into the various approaches
used to identify disease in rice plants. Different attributes evaluated for the
study include the kind of segmentation, dividing technology, extracted
features, author name, dataset size and year of publication, disease category,
techniques, accuracy of detection as well as classification and constraints.
Furthermore, a model using a hybrid deep learning technique is proposed to
identify diseases in rice plant such as rice blast, brown spots, leaf smut,
tungsten and sheath.

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF

39,95 €

Price includes VAT (India)

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites

Subscribe

Subscribe   Cart   Create   Pers

Account   Sign

References

References is not available for this document.

Institutional Sign In

Institutional Sign In

Browse ⌄   My Settings ⌄   Help ⌄

All   ⌄

🔍

ADVANCED SEARCH

Context Monitoring of Patients using Wireless Network

Publisher: IEEE | Cite This | 📄 PDF

Vanajaroselin E Chirchi ; Chettiyar Vani Vivekanand ; N. Vini Antony Grace ; R Saranya ; S Venkataramana ; K. Praveena   **All Authors** ●●●

17
Full
Text Views

Ⓡ 🔗 © 🗂 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Literature Review

III. Proposed System

IV. Requirements

V. Results and Discussion

Show Full Outline ⌄

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: In many hospitals, doctors attend to patients either once or twice per day. A situation may arise in which the patient's health worsens during the time if a doctor is una... **View more**

▾ Metadata

Abstract:

In many hospitals, doctors attend to patients either once or twice per day. A situation may arise in which the patient's health worsens during the time if a doctor is unavailable to the patient, and the patient may die as a result. Most problems in today's world are caused by a lack of efficient therapy and appropriate monitoring within the required time period. To solve these issues with the current method, this research study proposes a health monitoring framework using wireless technology, in which the patient's health is followed and communicated to the physician throughout the entire day. The Internet of Things (IoT) is an emergent technology that uses wireless networking phenomenon to transmit data. The advantage of using IoT-based healthcare monitoring systems is that they can assess many physiological characteristics of the human body and is simpler, more accurate, and more precise than traditional methods. Sensors are utilized to measure the patient's bodily functions over a wireless network. The data from the sensors is gathered and communicated to the cloud through a Wi-Fi module linked to the microprocessor. The data is stored in the cloud, and feedback mechanisms are done on the stored data, which may be analyzed distantly by a physician. Virtual monitoring relieves doctors' workload and offers patients accurate health conditions. The proposed system results suggest that the physiological sensor is more effective in terms of availability and portability. The proposed system is easy to use, will save money, and will change how hospitals work in the future.

☰ **Contents**

Home > Journal of Optics > Article

Research Article | Published: 07 January 2023

Optomechanical behaviour of optical sensor for measurement of Wagon weight at different speeds of the train

Suchandana Mishra, Preeta Sharan ✉ & K. Saara

Abstract

This work includes the design and simulation of optical fiber as strain sensor to measure equivalent elastic strain generated on the rail due to the load of the train wagon at different speeds when train passes over it. It presents a behavioural study of maximum elastic strain and von Mises stress due to wheel-rail contact of a freight train with varying speed from 20 to 80 km/h. It is observed that, a maximum stress of 1016.4 MPa, a strain of 708.8 $\mu\varepsilon$, and a total deformation of 1.8029 mm, is obtained after experimentation at a constant wagon weight of 57.3 t. At 80 km/h, the shift in Bragg's wavelength is 1559.35 nm. In the first part, finite element analysis of rail -wheel model has been done to analyse equivalent strain on the rail at various speeds of train. Strain is estimated on the nodes of rail by changing the train running speed, and introducing wagon weight as a bearing load. The second part uses the optical simulator to construct and design an optical sensor fibre Bragg grating to find the shift in Bragg's wavelength caused by the equivalent strain is explained graphically. The sensor strain sensitivity of fiber is 1.87 pm/$\mu\varepsilon$ at speed 70 km/h which is the maximum running speed for freight trains.

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF	Rent this article via DeepDyve.
39,95 €	
Price includes VAT (India)	
Instant access to the full article PDF.	
Learn more about Institutional subscriptions	

Research Article | Published: 06 January 2023

Implementation of digital differentiator and digital integrator using quantum dot cellular automata

Preeta Sharan ✉, Anup M. Upadhyaya & Manpreet Singh Manna

119 Accesses | Metrics

Abstract

Current CMOS (Complementary metal–oxide–semiconductor) technology is no longer constrained in scaling by short channel effects. The semiconductor industry has developed a number of substitute technologies, including quantum-dot cellular automata, to get around these restrictions (QCA). In this study, a novel technique for developing digital differentiators and integrators is presented, employing QCA Technology as a key component. In order to design the digital differentiator focus has been given on no recursive simple tapped delay line differentiator called first difference differentiator and central difference differentiator. Further work has been done on design side of digital integrator. For this, time domain rectangular rule integrator has been realized with the support of QCA. By implementing the QCA, area of integrator circuit is obtained as 0.16 μm² and 0.14 μm² for 2 Bit and 4 Bit integrator circuit, respectively. Area occupied by central Difference differentiator is 0.52 μm², 4 Bit F-D Differentiator occupied 0.53 μm². Power calculation shows that power consumption is less than 6 nW in QCA-based integrator in comparison with CMOS technology. Further, it is observed that QCA-based digital differentiator and integrator have much reduced area compare to CMOS-based differentiator and integrator. These simple circuits can be further used in DSP filters like Cascaded Integrator-Comb (CIC).

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF

39,95 €

Price includes VAT (India)

Instant access to the full article PDF.

Rent this article via DeepDyve.

1-Dimensional silicon photonic crystal pressure sensor for the measurement of low pressure

Ranjith B. Gowda [a b], Preeta Sharan [c] 👤 ✉ , K. Saara [a]

Show more ⌄

:≡ Outline | ⤝ Share 🙶 Cite

Abstract

In this article we proposed a one-dimensional (1D) silicon photonic-crystal (PC) as a highly sensitive pressure sensor to measure the applied hydrostatic pressure. A 1D flexible silicon layer is formed at the top of the proposed structure. The proposed sensor is designed to measure the low pressure in the range of 10kpa to 20kpa. An FEM tool Comsol Multiphysics is used to design, simulate and analyze the structure. A central cavity is created to support the resonant mode and shift in the resonant mode is observed with the varying boundary load. With the variation in the applied pressure from 10kpa to 20kpa, shift in the resonant mode towards higher wavelength region was observed. The defect cavity length and number of layers were tuned to get optimized results. The novelty of this work includes, use of silicon material to sense the applied pressure, design and its simulation to obtain electric field distribution in the multi-layer structure and its analysis for sensing the applied boundary load using an FEM tool. Simulation results shows that the proposed sensor has a very high sensitivity of 350nm/GPa and Q-factor of 40,104 with the transmission of 99.99%.

⟨ Previous   Next ⟩

Loading [MathJax]/jax/output/SVG/jax.js

Photonic crystal; Pressure sensor; Multi-layer structure; FEM; Transfer matrix

1. Introduction

Low pressure measurement is one of the crucial demand in many industrial and biomedical applications (Pandey and Yadav, 2006, Pinet, 2011, Roriz et al., 2013). In industrial applications, pressure is frequently measured using electromechanical devices. These devices' accuracy for measuring low pressures is extremely minimum, making them less trustworthy. These devices are not appropriate for use in environments with strong EMI, hard operating circumstances, the usage of explosive substances, and high vibrational and temperature conditions. To get around these obstacles, pressure is measured using optical devices, and several kinds of optical sensors have been researched in the literature (Upadhyaya et al., 2021, Olyaee and Dehghani, 2012, Yu et al., 2019). The paradigm guiding the creation of

The development of laboratory downscale rail-wheel test rig model with optical sensors

Preeta Sharan [a], Suchandana Mishra [a] 👤 ✉ , Anup M. Upadhyaya [b]

Show more ∨

∝ Share 99 Cite

Abstract

Railway and train condition monitoring are two critical components in assuring passenger safety and comfort during their journey. In this work, a new laboratory downscale rail test rig has been designed and developed for exploring rail-wheel interaction and axle peak detection using fiber Bragg grating (FBG) optical sensors. This paper describes the laboratory setup's development process which includes numerical analysis of rail model, review of different experimental techniques, followed by 1:3 scaled model, mechanical and functional analysis of the railway setup with the grating sensor. By employing various data processing techniques axle peak detection of train was done and strain/stress transfer was calculated by the train passage to the rail track which was ~100.86 $\mu\varepsilon$. Total wavelength shit in the FBG sensor was 0.133 nm due to wheel load and sensitivity value was calculated approximately 1.36 pm/$\mu\varepsilon$ for the wavelength/strain changes. Characteristics of 1:3 laboratory rail test rig such as track retention, number of wheels, axle peak detection, rail-wheel rolling contact, stress/strain track deformation can be obtained in real time with fiber Bragg grating sensors.

Introduction

Railways and high-speed trains offer excellent energy conservation, environmental protection, economic growth, and effective travel time, among all others mode of transportation. It plays an important role for both passengers and goods [1]. Therefore, railway is developing in a continuous manner with respect to safety and convenience when compared to the road systems. In day-to-day studies more focus and research are required to minimize the rail defects and to monitor rail parts and railway system. The whole railway monitoring system comprises of various techniques and methods by using different tool. The experimental study conducted in various field examines the mechanics of wheel and rail which provides maximum information about the rail track and different parts of rail vehicle like weight of wagon, speed of the train, wear and tear in wheel condition [2]. Many studies have focused on traffic in railways, minimizing the waiting time for passengers, scheduling of trains to correct track to avoid accidents [3]. Another technique concentrates on modelling and finite element analysis (FEA) of rail vehicles having one- or two-wheel sets and each axis defined as sprung mass [4]. The contact points between the rail and wheel have been modelled on the assumption that wheel sets are moving loads running on the rail [5]. From the literature it is known that when a train passes on the track, the rail-wheel interaction force plays pivotal role in estimating wheel/rail irregularities like wheel flats, rail corrosion, crack etc [6]. Wheel flats were developed due to unintentional sliding of wheel on the rail or locking of the wheel while applying brakes. Due to this, the impact forces generated by wheel flat is extremely high

DESIGN & DEVELOPMENT OF INTELLIGENT AMBULANCE CONCEPT USING AI-ML-IOT & HUMAN INTERFACE TECHNOLOGIES

[1]Dr. Manju Devi, [2]Vijayalakshmi V.S., [3]Iffat Fathima, [4]Rashmi R., [5]Dr. Suhasini V.K., [6]Dr. Pavithra G.

Abstract

This paper aims to explore and analyze various research papers related to an efficient ambulance management system. By investigating similar topics, this project report seeks to gather valuable insights to enhance the process of making ambulances intelligent. With India's population constantly increasing, the strain on resources in the medical and government sectors has become a pressing concern. Insufficient support during emergencies hampers citizens' ability to receive timely help. The ambulance management system serves as the primary lifeline during critical situations. Failure to provide prompt ambulance services puts patients' lives at risk. Therefore, it is crucial to establish a robust mechanism to efficiently handle this vital resource and ensure timely assistance. This paper proposes leveraging state-of-the-art technologies such as cloud computing, IoT, AI, ML, and mobile computing to improve ambulance management and emergency response services.

When the Challenges in Ambulance Service Delivery is considered, the following points can be reiterated as follows. The delay in ambulance services is a significant challenge that needs to be addressed. In certain cases, on-site doctors may not be readily available, causing patients to experience delayed medical attention. To mitigate this issue, a health monitoring system can be implemented to continuously track vital health parameters, including heart rate, blood pressure, and body temperature. These parameters can be transmitted to a hospital server using IoT and cloud technology, enabling healthcare professionals to remotely monitor patients' health conditions.

Considering the Role of Artificial Intelligence in Healthcare, the following could be arrived at. In the current era of technology, Artificial Intelligence (AI) plays a vital role in various aspects of the healthcare sector, particularly in cardiac disease detection. Sudden cardiac deaths pose a significant threat to individuals, making early detection crucial. AI algorithms can analyze large volumes of medical data to identify patterns and markers indicative of cardiac diseases. By employing AI-powered systems, healthcare providers can enhance their diagnostic capabilities and implement preventive measures to reduce the risk of sudden cardiac deaths. Efficient ambulance management is imperative for providing timely assistance to individuals in need. The growing population and strain on resources necessitate the adoption of advanced technologies to enhance emergency response systems. This paper highlights the potential of cloud computing, IoT, AI, ML, and mobile computing in improving ambulance management and emergency services. By incorporating a health monitoring system that utilizes IoT and cloud technology, vital health parameters can be continuously monitored, ensuring prompt medical attention. Moreover, leveraging Artificial Intelligence can significantly contribute to the detection and prevention of cardiac diseases, reducing the occurrence of sudden deaths. It is crucial for stakeholders in the healthcare sector to embrace these technological advancements and work towards implementing intelligent ambulance management systems that prioritize the well-being and safety of patients.

Keywords: AI, IoT, ML, DL, Cloud Computing.

All

🔍
ADVANCED SEARCH

Conferences > 2015 IEEE International Advan... ❓

Multimedia data transfer from IPV4–IPV6 in an optical network by using routing table

Publisher: IEEE   **Cite This**   🗎 **PDF**

Piruthiviraj P ; Sarvotham Prasad R ; Preeta Sharan ; Nagaraj R   **All Authors** •••

Ⓡ 🔗 ©

Alerts

Manage Content Alerts
Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. IPV4 Communication

III. IPV6 Communication

IV. Protocol Access Methods

V. IPV4 and IPV6 Tunneling

Show Full Outline ⌄

Authors

Figures

References

Citations

Keywords

Metrics

More Like This

🗎
Downl
PDF

Abstract: Internet Protocol version6 (IPv6) ad-hoc is a conceptual abstract to solve some of the issues of the present IP versions, say Internet Protocol version4 (IPv4). Some of t... **View more**

▾ Metadata

Abstract:

Internet Protocol version6 (IPv6) ad-hoc is a conceptual abstract to solve some of the issues of the present IP versions, say Internet Protocol version4 (IPv4). Some of the problems are delay, latency, reliability, error, address exhaustion, testing, resilience etc. The present paper will be dealing with the conversion from a protocol IPv4 to a next generation IPv6 via optical network configured with a routing table where the analysis of the liquidity of data like multimedia data transfer is done. A virtual connection path between server and client systems (as in the enterprise edition of Java -J2EE) is established using TCP (Transmission Control Protocol). The work proposed is allowed to implement networking via optical cables with a cost effective IPv4 migration to IPv6 for the multimedia communication while having a couple of optical converter devices explicitly. During experimental analysis, the tunnelling method of IPv4 to IPv6 conversion established via optical network with a routing table proved to be an easy verification routine. The duration required to ingress the data at the client end was evaluated and the results obtained while downloading an image file(.jpeg), audio file(.mp3) and video file(.mpeg4) are 0.21, 3, and 10 seconds respectively; the same selection of algorithms was also implemented with a streaming through a server at a bit rate of 10 Gbps . The file sizes of the different multimedia data is found to be constant for an image file, an audio file and a video file to be 20 Mb. Hence we have done an experimental analysis if these multimedia data is transferred via a client server configuration in the optical network by making use of our own routing table.

Pre-current amplifier based transimpedance amplifier for biosensors

Jyoti M. Roogi, Manju Devi

Abstract

In this paper, we present current amplifier based transimpedance amplifier (TIA) for biosensor applications. Proposed design has low-noise, high Transimpedance gain that can be used for low current measurement applications. The current amplifier based TIA is implemented in order to resolve the fabrication issues related to high value feedback resistor. In this design, the input block to TIA is a low amplitude current amplifier. The designed amplifier is implemented in 90 nm complementary metal-oxide semiconductor (CMOS) technology. The design achieves transimpedance gain of 800 kΩ with a bandwidth of 5 kHz and input referred current noise is of 0.152 pA/$\sqrt{HZ}$ for an input of 41 nA bypassed from current amplifier with input of 200 pA.

Keywords

Current amplifier; Fabrication; Noise; Resistor; Transimpedance amplifier

Full Text:

PDF

DOI: http://doi.org/10.11591/ijres.v11.i2.pp188-195

Refbacks

- There are currently no refbacks.

View IJRES Stats

CITATION ANALYSIS

- Google Scholar
- Scopus
- Dimensions
- Baidu Scholar

QUICK LINKS

- Focus & Scope
- **Publication Fee**
- **Author Guidelines**
- **Online Submission**
- Withdrawal of Manuscript
- **Peer-review Process**
- Open Access Policy
- **Publication Ethics**
- Similarity Report
- Editorial Team
- Reviewers
- Abstracting and Indexing
- Contact Us

LATEST ISSUES

- 2023: **Mar**, **Jul**, **Nov**
- 2022: **Mar**, **Jul**, **Nov**
- 2021: **Mar**, **Jul**, **Nov**
- 2020: **Mar, Jul, Nov**
- 2019: **Mar, Jul, Nov**
- 2018: **Mar, Jul, Nov**
- 2017: **Mar, Jul, Nov**
- 2016: **Mar, Jul, Nov**
- 2015: **Mar, Jul, Nov**

JOURNAL CONTENT

Search

Search Scope
All

Search

Browse
- By Issue
- By Author
- By Title

INFORMATION

- For Readers
- For Authors
- For Librarians

Research | Published: 15 July 2023

Improved Surface Plasmon Effect in Ag-based SPR Biosensor with Graphene and WS$_2$: An Approach Towards Low Cost Urine-Glucose Detection

Archana Yadav, Madhusudan Mishra ✉, Sukanta K. Tripathy, Anil Kumar, O. P. Singh & Preeta Sharan

Abstract

Gold and silver are the two notable noble metals with wide implications in surface plasmon resonance (SPR) based sensors. Gold possesses a superior SPR phenomenon compared to silver, however, with extremely high costs. To resolve this problem, the current study proposes a new gold–free SPR biosensor design employing silver as the noble metal for efficient detection of blood glucose using urine as the biosample. The proposed design employs two types of 2D materials such as graphene and tungsten disulfide (WS$_2$) to enhance the sensitivity of the silver-based SPR biosensor. An investigation for design of a low-cost biosensor for urine-glucose detection is done using the proposed configuration. The glucose concentration in the biosample ranges from 0 to 15 mg/dl (for normal persons) and 0.625 gm/dL, 1.25 gm/dL, 2.5 gm/dL, 5 gm/dL, and 10 gm/dL (for diabetic persons), with corresponding refractive indices of 1.335, 1.336, 1.337, 1.338, 1.341, and 1.347. The material's type, order, and thickness have been chosen through numerous case studies. It is worth noting that, with 4-layer graphene (0.34 nm) and 4-layer WS$_2$ (0.8 nm), the proposed silver-based SPR biosensor shows improved sensitivity (288.86º/RIU) and figure of merit (88.89/RIU) than its gold-based counterpart (sensitivity 150º/RIU). Finally, this study is also compared with similar reported literatures. The proposed structure has potential to develop low-cost and efficient SPR-based biosensors (glucose sensors), with a substantial shift in resonance angle of SPR curves as shown in the present study.

Research Article │ Published: 11 July 2023

Design of optical sensor for cancer prognosis prediction using artificial intelligence

Ranjeet Kumar Pathak, Sumita Mishra & Preeta Sharan ✉

32 Accesses │ Metrics

Abstract

A key role of the World Health Organisation is improving the proportion of patients with early cancer diagnosis. Due to the high rates of mortality and recurrence, the treatment process requires several months and is very expensive. Over the years, advancements in computer engineering and optical field communication have inspired numerous scholars to use a variety of computational algorithms to analyse and study the accuracy of the illness prognosis. This article discuss on the development of 2D-photonic crystal biosensor for detecting the variation in refractive index of healthy cell and different types of cancer cell. The variation in refractive index of cell is from

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF

39,95 €

Price includes VAT (India)

Instant access to the full article PDF.

Rent this article via DeepDyve.

Highly sensitive temperature sensor using one-dimensional Bragg Reflector for biomedical applications

Ranjith B. Gowda ✉, Preeta Sharan and Saara K.

Abstract

A theoretical investigation of multi-layer Bragg Reflector (BR) structure to design highly sensitive temperature sensor is proposed to measure the temperature over a wide range. Characteristic-Matrix (CM) mathematical tool is used to design and analyse the proposed temperature sensor. A 1D Distributed Bragg Reflector multi-layer structure is used to design and analyse the sensing characteristics of the proposed sensor. Periodic modulation in the Refractive-Index (RI) of the two materials, high and low, forms DBR multi-layer structure. Germanium and air are used as the two alternate materials of BR for high and low dielectric layers respectively. Parameters of many semiconductor materials, including germanium, varies with temperature. Here we have considered RI variation of germanium with the temperature to model and design the proposed sensor. A defect layer is introduced at the center of multi-layer structure to obtain the resonating mode for an incident electromagnetic wave. The sensor can detect temperature over a wide range from 100 to 550 K. A resonating mode, shifting towards different wavelength region is observed for the temperature variations. The influence of increase in the DBR layers (N) and defect cavity geometrical length (l_D) is studied. The obtained results conclude that the cavity defect length and BR layers affects the sensing parameters of the designed sensor. The obtained RI sensitivity, Q-factor, temperature sensitivity and detection limit of the sensor are 2.323 µm/RIU, 115,000, 1.18 nm/K and 9.024×10^{-6} RIU respectively. Theoretically obtained transmission spectrum was validated using Monte Carlo simulation.

Keywords: 1D photonic crystal; Bragg Reflector; characteristic matrix; multi-layer structure; refractive index; temperature sensor

Corresponding author: Ranjith B. Gowda, Department of Electronics & Communication Engineering, SOE, Dayananda Sagar University, Bangalore,

Tech Science Press

Q   Submit   LOGIN
                    REGISTER

Home   Academic   Books &   Conferences   Language   News &   About

Home / Journals / CSSE / Vol.45, No.3, 2023 / 10.32604/csse.2023.030548

Journals   Monographs   Service   Announcements

Open Access

ARTICLE

Check for updates

N×N Clos Digital Cross-Connect Switch Using Quantum Dot Cellular Automata (QCA)

Amita Asthana[1,*], Anil Kumar[1], Preeta Sharan[2]

1 Amity University, Lucknow, 226028, India
2 The Oxford College of Engineering, Bangalore, 560019, India
* Corresponding Author: Amita Asthana. Email: researches555@gmail.com

Related articles

N×N Clos Digital Cross-Connect Switch Using Quantum Dot Cellular Automata (QCA)

Amita Asthana, Anil Kumar, Preeta...

View Full Text

Download PDF

👍   in   f   𝕏   ⤴

Women Safety Using Cloud Messaging Technology

VijayaKumari.V

ECE Department,The Oxford College of Engineering, Bangalore-560 068,India

ABSTRACT

Today, usages of smart phones by people have increased rapidly and hence, a smart phone can be used efficiently for personal security or various other protection purposes. The heinous incident that outraged the entire nation has wakened us to go for the safety measures and so the hosts of new apps have been developed to provide security systems to women via their phones. This paper presents women security through an Android Application for the Safety of Women and this app can be activated independently by the mobile, whenever the need arises. This app identifies the user location through GPS and sends a message using GCM comprising the current location URL to the registered and emergency contacts and also sends messages to nearby mobile users who are having this app for rescuing purpose in case of danger. This is implemented with hardware using microcontroller, GCM, GPS, buzzer and sensors.

Keywords: smart phones, nation, android, buzzer, sensors

1.Introduction

The ladies in India standing in public places are facing several challenges to face over the past few thousand years. From equal standing with men in past through the low points of the medieval period to the self-promotion of equal rights by several reformers, the history of ladies in India has been eventful. A smart intelligent system is developed to solve the problems faced by women using a wrist band and spectacles used in daily life. It resembles a band incorporated with pressure switch as input which on activation provides a screaming alarm and tear gas mechanism for self defending and provides message to contacts through live video captured using the spectacles[1]. On clicking the app it identifies the location using GPS and sends message to the registered contacts every 5 minutes until the stop button is clicked. This SMS helps to find the location of the victim to be rescued safely [2]. In this system arduino is used for analysis of physiological signal with body position using the sensor such as vibration sensor and fault detection sensor. The acquisition of raw data makes arduino to function by activating GPS to send alert messages through GSM and wireless camera to capture images and video and shared to the registered contacts[3]. The ARM controller and android application are the devices connected to smart phones and are synchronized using Bluetooth which can be triggered independently[4]. In smart women safety system depicts a GPS and GSM zapper circuit based ladies security framework which gives a mix of GPS gadget particular to track the area and gives an alarms and messages a crisis circumstance [6]. Radio frequency based tracking is for helping parents to keep an eye on the women is everywhere they are. Many methods can be used to design various form of RFID which results in accurate information and better performance in power and image reading [7]. When someone going to harass she can just press button and location is sent to an SMS alert to few predefined numbers in terms of latitude and longitude[8]. The women safety device allows immediate response and focuses on providing instant protection to user by alarming sound using buzzer and the shock is protected by the shocker circuit through relay[9]. The crime against women can be brought to an end with the real time system implementation. This system helps to supports the gender equality by providing safe environment to women in the society, and allows them to work till late nights. The proposed system provides tool for intrusion detection inside the home where senior citizen, handicapped person leaving alone and after detection it takes necessary preventive measure [10]. It can be overcome by storing data onto the cloud.

2.Methodology

HOME   ABOUT   LOGIN   REGISTER   SEARCH   CURRENT   ARCHIVES
ANNOUNCEMENTS

Home > Vol 21, No 3 > **Pathak**

Bragg reflector one-dimensional multi-layer structure sensor for the detection of thyroid cancer cells

Ranjeet Kumar Pathak, Sumita Mishra, Preeta Sharan

Abstract

In the proposed work, a defect cavity multi-layer Bragg reflector structure is proposed theoretically to find the presence of thyroid cancer cells in the given sample. The modelling, design and analysis of the sensor is performed using characteristic matrix method (CMM). Proposed structure has central defect cavity with 6 pairs of low and high refractive index layers on each side of the defect. To enhances the sensor sensitivity, the incident light in mid-infrared frequency range is used as input light source. The refractive index of normal and thyroid cancer cells is analysed for the performance of the sensor. The obtained Q factor and sensitivity of the sensor design is 3729 and 2828 nm/RIU respectively. The proposed sensor is a best choice of optical sensor for the detection of thyroid cancer cells in the given test sample for accurate analysis in medical applications.

Keywords

Bragg's reflector; characteristic matrix method; micro-cavity; photonic crystal; thyroid cancerous cells;

Full Text:

PDF

DOI: http://doi.org/10.12928/telkomnika.v21i3.24282

Refbacks

There are currently no refbacks.

03943482

View TELKOMNIKA Stats

Research Article | Published: 08 November 2022

Comparative analysis and design of high-performance photonic crystal add–drop filter for optical switching

Amita Asthana ✉, Anil Kumar & Preeta Sharan

Abstract

Photonic crystal add–drop filter structures are promising technology for optical communication networks. This paper presents the design of H-shaped photonic crystal add–drop filter that consists of one straight waveguide and four arm waveguides. A ring resonator-based add–drop filter has been proposed with upper and lower waveguides for light propagation. A triangular-shaped add–drop filter has also been designed using two-dimensional photonic crystals (2D-PCs) also with high optical transmission capabilities. Numerical methods such as plane wave expansion and finite-difference time-domain method have been employed in the execution of this work. The proposed 1 × 4 H-shaped add–drop filter has shown

RESEARCH | Published: 08 May 2023

Two-Dimensional Photonic Crystal Biosensor Based on Gallium Arsenide Composite Semi-conductive Material for Diabetes Detection

Manjunatha N, Sarika Raga ✉, Sanjay Kumar Gowre, Hameed Miyan & Preeta Sharan

Abstract

In this study, a gallium arsenide (GaAs) composite semi-conductive material is used as rods with an air background lattice point as a photonic crystal for the detection of diabetes using urine, blood, and tear samples. The refractive index (RI) of bio-samples at various concentrations is used to determine the interaction between light and analyte. As a result, there is a good wavelength shift and light confinement in the detecting region. The photonic bandgap (PBG) and optical characteristics of light are measured using the plane wave expansion (PWE) and finite difference time domain (FDTD) techniques, respectively. The effect of

Numerical modelling of 1-dimensional silicon photonic crystal sensor for hydrostatic pressure measurement

Ranjith B. Gowda, Preeta Sharan ✉ and Saara Khamar

Abstract

In this work, a highly sensitive hydrostatic pressure sensor using one-dimensional (1D) photonic-crystal (PC) is designed and analyzed numerically for its sensing performance. The device design has silicon (Si) sensing layer at the top to sense the applied pressure. The proposed sensor performance has been studied for its pressure sensing, by applying boundary load on the sensing layer. The structure is designed, simulated and analyzed using an FEM tool. As the applied pressure is varied from 0 MPa to 10 MPa, resonant mode shifts towards the higher wavelength region. The effect of defect cavity length and the number of periods are also analyzed to choose the optimized value which enhances the sensor performance parameters. Simulation result shows that the proposed sensor has a very high sensitivity of 250 nm/GPa and Q-factor of 11,120 with the transmission of 99.99%.

Keywords: FEM; multi-layer structure; photonic crystal; pressure sensor; transfer matrix

Corresponding author: Preeta Sharan, Department of Electronics & Communication Engineering, The Oxford College of Engineering, Bangalore, India, E-mail: sharanpreeta@gmail.com

Design of Two-Dimensional Photonic Crystal Defect Microcavity Sensor for Biosensing Application

Preeta Sharan ✉, Tahani A. Alrebdi, Abdullah Alodhayb & Anup M. Upadhyaya

Abstract

In the proposed work we designed and analysed a two-dimensional photonic crystal based sensor for three different biosensing applications, including measuring the normal and abnormal levels of uric acid, glucose, and creatinine in the blood. We examine the sensitivity, Q factor, and wavelength shift of two different types of sensor cavity design. The simulation approach used a finite difference time domain method. The work has made use of electromagnetic equation propagation, MEEP tool from the Massachusetts Institute of Technology. The maximum sensitivity of the proposed sensor is 282 nm/RIU and Q factor of 5432 was obtained for the structure 1 photonic cavity. Using the IPKISS

Scheduled Maintenance: On Tuesday, October 31, IEEE *Xplore* will undergo scheduled maintenance from 1:00-5:00 PM ET (5:00-9:00 PM UTC). During this time, there may be intermittent impact on performance. We apologize for any inconvenience. ✕

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites   Subscribe   Subscribe   Cart   Create   Pers
Account   Sign

Browse ⌄   My Settings ⌄   Help ⌄   Institutional Sign In

Institutional Sign In

All   ▾

🔍

ADVANCED SEARCH

Highly Sensitive Bimetallic-Metal Nitride SPR Biosensor for Urine Glucose Detection

Publisher: IEEE | Cite This | 📄 **PDF**

Archana Yadav   ; Anil Kumar   ; Preeta Sharan ; Madhusudan Mishra   **All Authors** •••

15
Cites in
Papers

151
Full
Text Views

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Device Structure

III. Theory

IV. Numerical Analysis and Result Discussion

V. Conclusion

Authors

Figures

References

Citations

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: The present study introduces a highly sensitive bimetallic SPR biosensor based on metal nitride for efficient urine glucose detection. Using a BK-7 prism, Au (25 nm), Ag ... **View more**

▸ **Metadata**
Abstract:
The present study introduces a highly sensitive bimetallic SPR biosensor based on metal nitride for efficient urine glucose detection. Using a BK-7 prism, Au (25 nm), Ag (25nm), AIN (15 nm), and a biosample (urine) layer, the proposed sensor comprises of five layers. The selection of the sequence and dimensions of both metal layers is based on their performance in a number of case studies including both monometallic and bimetallic layers. After optimizing the bimetallic layer as Au (25 nm) – Ag (25 nm), various nitride layers were used to further increase the sensitivity by utilizing the synergistic effect of the bimetallic and metal nitride layers through case studies of several urine samples, ranging from nondiabetic to severely diabetic patients. AIN is determined to be the best suited material, and its thickness is optimized to 15 nanometers. The performance of the structure has been evaluated using a visible wavelength, i.e., $\lambda = 633$ nm, in order to increase sensitivity while providing room for low-cost prototyping. With the layer parameters optimized, a significant sensitivity of 411°/RIU (Refractive Index Unit) and figure of merit (FoM) of 105.38 /RIU has been achieved. The computed resolution of the proposed sensor is 4.17e-06. This study's findings have also been compared to some recently reported results. The proposed structure would be useful for detecting glucose concentrations, with a rapid response as measured by a substantial shift in resonance angle in SPR curves.

Loading [MathJax]/extensions/MathZoom.js

ORIGINAL RESEARCH article

Effect of 2-D nanomaterials on sensitivity of plasmonic biosensor for efficient urine glucose detection

👤 Archana Yadav (https://www.frontiersin.org/people/u/1984392)[1]*

👤 Shatrughna Kumar (https://www.frontiersin.org/people/u/1981506)[2] 👤 Anil
Kumar[1] 👤 Preeta Sharan (https://www.frontiersin.org/people/u/1484190)[3]

[1] Department of ECE, Amity School of Engineering and Technology, Amity University, Uttar Pradesh Noida Lucknow Campus, Noida, India
[2] Department of Physical Electronics, School of Electrical Engineering, Faculty of Engineering, and Centre for Light-Matter Interaction, Tel Aviv University, Tel Aviv-Yafo, Israel
[3] Department of ECE, The Oxford College of Engineering, Bengaluru, India

Original Research │ Published: 02 October 2022

Simulation and excitation analysis of nano aperture-array for surface plasmon based memory applications

Srujana Ramachandra, M. V. Panduranga Rao & Preeta Sharan ✉

Abstract

This study ponders the prospect of a Plasmon enabled optical memory device to achieve higher data transfer rates and data density. The device is based upon Silicon as a substrate, Silver metal and Silicon nitride sandwiched between them. Paper discusses simulation based excitation analysis of two design variations of a memory device labelled device 1 and device 2, focusing upon the metal layer containing Nano aperture, with an area of 250 nm² using 650 nm light source. Simulations are carried out with the help of opti-FDTD and Rsoft (FullWAVE) tools. Through the comparative analysis of Electric field intensity, switching speed

Novel design of reversible latches using feynman gate and implementation of reversible combinational circuits

Amita Asthana ✉, Anil Kumar & Preeta Sharan

96 Accesses | Metrics

Abstract

Quantum Dot Cellular Automata (QCA) technology is gaining popularity for its low power requirements, high speed and efficient miniaturization of digital circuits. Especially, digital circuits now need to be realized and investigated at quantum levels. The manuscript presents the design of several combinational and sequential logic circuits by employing reversible quantum gates such as Peres gate, Thapliyal Ranganathan (TR) gate and Feynman gate (FG) using QCA technology. The manuscript presents the novel design of various latches (D, T, JK and SR) using Feynman gate. The manuscript also demonstrates the design

Real time implementation of fiber Bragg grating sensor in monitoring flat wheel detection for railways

Suchandana Mishra [a] ✉ , Preeta Sharan [b] 👤 ✉ , K. Saara [a] ✉

Show more ∨

Outline | Share | Cite

Get rights and content ↗

Highlights

- Rail-wheel analysis of the train.

- Real time monitoring and detection of the train wheel passage using optical sensor fiber Bragg grating sensor.

- Positions of grating sensors installed on the rail.

- Time domain and frequency spectrum analysis for the strain data induced on the rail when train passes by, to detect wheel flats.

- Reflection spectrum analysis for good wheel and bad wheel of a passenger train.

Abstract

Wheel flats are a key source of issues in railway systems, as they generate significant wear on both the infrastructure and the train carriages. Flat zones on the wheel tread are created by the wheel sliding unintentionally on the rail. They can cause serious damage to the train and accidents, so identifying worn wheels is critical for human safety and rail transit. The purpose of this study is to present the real-time implementation of fiber Bragg grating sensors on rail tracks and to investigate the train's flat wheel status. By considering passenger train running at speed 70kmph, it has been monitored for 35 sec in the interrogator. Real time analysis of strain induced in the rail was calculated and it has been found from the sensor reading there is peak value of strain of the order of 303.4 $\mu\varepsilon$ which implies that wheel flatness is present whereas for normal wheel strain value is minimal up to 173.23 $\mu\varepsilon$. By collecting experimental strain data simulation has been done and shift in peak wavelength at 1550.804nm and reflectivity obtained was 89.3% for flat wheel. Simulation result shows that there is a remarkable wavelength shift for the flat wheel and normal wheel from the Bragg center wavelength.

Graphical abstract

Novel soft-switching integrated various converter of ZVT-ZCT grid connected PV system

Nisha C. Rani [a] ✉ , N. Amuthan [b] ⊠ ✉

Show more ∨

⤙ Share 🙶 Cite

Get rights and content ↗

Abstract

Solar photovoltaic systems contribute to the development of the world's most environmentally sustainable and cost-effective electrical energy. High-power inverters commonly use a technique known as three-level design to increase their performance by soft-switching. On the other hand, the switching action is stressed in normal operation because the current or voltage will not be zero at the time of the transition. For CUK, SEPIC, ZETA and CASCODE converters operating in critical switch mode, it has been proposed that a new type of DC-DC converters primarily formed on capacitive coupling DC-DC converters be developed. The proposed converters are zero-current-voltage-switching half-square-quarter-wave converters with a zero-current auxiliary circuit. LC-circuit resonance causes power switches to turn on at zero voltage, getting rid of the switching losses during turn on. The hybrid Incremental Conductance & Integral Regulator technique is used to track MPP available from PV system. The proposed converter's results and efficiency are compared to those of traditional semi-square-quarter-wave zero-current-converter converters. The proposed converters achieved power efficiencies of 98.7% in the step-up mode and 98.8% in the step-down mode for the rated load state, respectively. The proposed CUK, SEPIC, ZETA and CASCODE Converters Simulation are implemented in the MATLAB Simulink programme to validate its efficiency.

Introduction

Soft-switching approaches that offer Zero Current Transition (ZCT), Zero Voltage Transition (ZVT) or a combination of the two have been proposed to improve power conversion efficiency. A photovoltaic system is a power system that utilizes photovoltaic technology to generate usable solar energy. The suggested soft-switched DC-DC converter is compared to a normal DC-DC converter in terms of efficiency and a few topologies at different output powers.

Gurumurthy et al. [3] describes a new BDC (Bi-Directional Converter) design that uses a mix of quick turn off IGBTs and the implementation of a new control logic to attain switching losses to be zero utilising ZVT and ZCT approaches. The proposed topology has a drawback in that the optimum resonant component values are dependent on operational load conditions, which is a flaw in the design. Furthermore, this architecture is unsuited for applications with high frequencies. Reshma K R [10] has put forward the major advantage of the SEPIC converter is the constant input current, which can help with accurate PowerPoint monitoring of solar cells. The inductorless passive regenerative snubbed assists the converter in realizing zero current and zero voltage switching, improving performance of the converter.

Original Article

Soft-Switching Integrated Quasi Resonance Buck-Boost Converter for HHO Optimized Grid Connected PV System

Nisha C. Rani[1], N Amuthan[2]

[1]*Department of Electrical and Electronics Engineering, The Oxford College of Engineering, Bangalore, India.*
[2]*Department of Electrical and Electronics Engineering, AMC Engineering College, Bangalore, India.*

[1]*nishashamin@gmail.com*

Abstract – *The most economical and ecologically beneficial electrical energy worldwide results from solar photovoltaic systems. However, switching action under normal operation undergoes stress since the voltage or current may not be zero at the changeover time. Here, we suggested the ZVT-ZCT Quasi Resonance Buck-Boost converter (QRBB), which introduces L-C dynamics and induces a forced oscillation, allowing the primary switch (IGBT) to turn off at zero current transition and turn on at zero voltage transition, thereby reducing stress on switching device. Furthermore, the VSI is controlled by the Harris Hawks Optimization Algorithm (HHO) optimized proportional-integral (PI) controller. The proposed dc-dc converter can deliver pure sinusoidal output current and voltage waveforms with better output voltage enhancement. The suggested QRBB Converter's performance and efficiency are tested through simulation using the Matlab Simulink software. The result shows that the PI-HHO controller provides a better steady and dynamic state response and delivers quality power to the grid than the conventional PI controller.*

Keywords – *Global Warming, Solar Photovoltaic Systems, Electrical Energy, Output Voltage, Matlab.*

1. Introduction

Concerns about global warming, the exhaustion of fossil fuels, and technological advancements have made non-conventional energy resources appear as reliable energy sources. Incorporating solar systems into grid-connected systems has increased their significance in today's energy market [7, 15]. The electric power generated from SPV is DC. When we connect SPV to constant frequency grid systems, it takes two stages to complete the energy conversion process ice, DC-DC, and DC-AC conversions are both possible [1]. The energy conversion process for renewable energy systems involves DC-DC buck-boost converters and DC-AC Voltage Source Inverters.

SMPS have become lighter and smaller in the case of a higher switching frequency conversion system. [20] When the switch is a turn on, the current flow will be increased, and the voltage will be decreased across the switch. Now, if there is an overlap between these two transients, this phenomenon is termed hard switching, resulting in switching losses [24]. However, if the switching voltage becomes zero, then the current starts rising. There is theoretically zero turn-on loss. These kinds of switching are known as 'soft switching'. When we implement resonant components in parallel/series with the switches, the converter can attain zero voltage/current switching for the

diode and switch without increasing current and voltage stress. These types of converters are called ZVT/ZCT converters [15]. QSW-ZCS [3] lowers the switch's voltage stress, enables the designer to choose semiconductor devices with a lower voltage rating for the output switch, and eliminates the need for passive RC snubbers, reducing the value of dv/dt, which brings about EMI improvement. [4] The employed ZVT cell in this converter is compatible with high step-up coupled inductor-based boost converters since soft switching is provided by making use of the leakage inductance of coupled inductors in the resonant network. [5] A non-isolated buck converter, resonance and zero voltage transition to achieve zero voltage switching (ZVS) and zero current switching (ZCS) to upgrade the conversion efficiency. [6] SEPIC converter is designed for continuous input current operation.

These auxiliary circuits do, however, work with resonance, which increases the cost and complexity of the circuit. Thus, the soft switching converts reduce the system's efficiency as the auxiliary switches generate the switching losses [8, 9, 13, 17]. As mentioned in [10], the limitations of hard switching in Continuous Conduction Mode are the switching loss due to reverse recovery voltage and higher switching frequency [11]. Despite these limitations, the hard switching methodology has to be modified to reduce or

DC -AC –DC Converter for Renewable Energy Application

Ms Renuka S[1], Mrs Nisha C Rani[2]

PG Scholar, Department of Electrical and Electronics, The Oxford College of Engineering, Bengaluru,

Karnataka, India[1]

Assistant Professor, Department of Electrical and Electronics, The Oxford College of Engineering, Bengaluru,

Karnataka, India[2]

ABSTRACT*:* Because of its small size and weight, single stage LLC resonant converters with intrinsic power factor correction are gaining appeal in AC-DC converters. Single stage topologies, on the other hand, are less effective in regulating the dc bus capacitor voltage during line and load transients. This to overcome the problem, the research offers a single stage AC-DC LLC topology based on flying capacitors of dc-bus capacitor voltage balancing and lowering the voltage stress on switching devices The suggested three-level inverter structure ensures zero voltage switching, lower circulating currents, and lower power consumption. Stress and losses are switched. For increased efficiency, the converter employs a bridgeless rectification technique. The source-side inductor is operated in discontinuous current conduction to bring the power factor close to unity. This paper proposes an LLC converter for 300V DC and convertsit to 24V DC. The proposed system has been done in MATLAB/Simulink.Also a hardware prototype for the same system has been designed and implemented.

KEYWORDS*:* LLC resonant converter, single stage AC-DC, Bridgeless rectification.

I. INTRODUCTION

LLC resonant converters provide several advantages, including switching of switching devices, inherent short circuit and open circuit protection, and high efficiency [2]– [4]. They may operate at a very high switching frequency, which decreases the converter's size and weight and makes them ideal for applications such as electric car battery charging. However, to enhance the power factor in AC-DC applications, a front end boost power factor correction (PFC) stage is frequently required [3]. The current tendency is to employ a single power converter to manage both the power factor stage and the LLC stage, where the input inductor's operation in the discontinuous conduction mode helps shape the average input current without any closed loop control, thus enhancing pf.

To get around this problem and attain energy balance, The controller normally shifts when the DC bus voltage is reasonable. the converter's switching frequency and at low loads, the converter's switching frequency may be extremely high. High switching losses and control challenges result from these levels. A burst mode control approach is employed in [7]–[9], where the For a set period of time, the controller pauses the switching action. intervals depends on the voltage of the bus capacitor and the output DC When the switching frequency reaches its maximum, the voltage rises dramatically. a lot of it This results in voltage and current transients. The controller's usual operation and waveforms are affected. interrupted. In addition, the burst mode of operation introduces low frequency components in the voltage, necessitating the use of a low frequency filter.

Pulse-width-modulation (PWM) converters and resonant converters are the two types of DC-DC converters. Because most applications require a regulated voltage output, a feedback loop is included in the control system to keep the output voltage stable. Small-signal equivalent circuit models are essential for optimal design [1]-[2]. The input stage, resonant tank, and output stage are the three stages of the resonant LLC topology. Input signals, control signals, and output signals are all present in each stage. Each stage's relationship between three sections is thoroughly explored and modelled. A FPGA-based HIL simulation experiment is performed, as well as a standard PSIM simulation, to evaluate the FPGA-based model [3]. The size of the resonant components will eventually shrink as the switching frequency rises.

References

References is not available for this document.

Browse ⌄   My Settings ⌄   Help ⌄

Institutional Sign In

Institutional Sign In

All ▾

🔍
ADVANCED SEARCH

THD minimization of ZVT -ZCT Quasi Resonant SEPIC Converter with proposed Harris Hawks Optimization Technique

Publisher: IEEE   **Cite This**   📄 PDF

Nisha C Rani ; N. Amuthan   **All Authors** •••

26
Full
Text Views

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. The Proposed System
    Block Diagram Description

III. Optimization Technique

IV. ～～～～ ☰
    Source Inverter Using
    Optimization Technique

V. Results and Discussion

Show Full Outline ⌄

| Authors |
| Figures |
| References |
| Keywords |
| Metrics |
| More Like This |

📄
Downl
PDF

Abstract: In this paper ZVT (Zero Voltage Transition)-ZCT (Zero Current Transition) based Quasi Resonant SEPIC (QRSEPIC) converter with a Voltage Source inverter (VSI) using optimi... **View more**

▸ **Metadata**

Abstract:

In this paper ZVT (Zero Voltage Transition)-ZCT (Zero Current Transition) based Quasi Resonant SEPIC (QRSEPIC) converter with a Voltage Source inverter (VSI) using optimization algorithm is proposed. The proposed converter uses solar energy as its input, which is a sustainable form of energy. In this paper special attention is paid to pulse width modulation (PWM) techniques, which aim to reduce the harmonic content. The harmonics are controlled due to the switching techniques. Rigorous work has been done for the reduction of harmonic content with various algorithms and optimization technique. This paper suggests optimization control technique to generate the PWM pulses, based on Harris Hawks Optimization algorithm to minimize the objective function. For this switching control of the proposed QRSEPIC converter, the system performance is improved, and Harmonic distortion is controlled. Further computation is done for the enhancement of efficiency. Simulation studies were carried out with MATLAB/Simulink for photovoltaic systems, and it was observed that the QRSEPIC with Harris Hawks algorithm gave better results compared to other optimization methods. The proposed method achieves an efficiency of 99.01 percentage and the reduction in THD to 0.832 percentage.

Published in: 2023 10th International Conference on Computing for Sustainable Global Development (INDIACom)

Date of Conference: 15-17 March 2023

Date Added to IEEE *Xplore*: 04 May 2023

▸ **ISBN Information:**

INSPEC Accession Number: 23318325

Publisher: IEEE

Conference Location: New Delhi, India

☰ **Contents**

I. Introduction

Conferences > 2023 10th International Confe... ❓

Design and Analysis of Pressure Sensor based on Micro Hole Photonic Crystal Slab

Publisher: IEEE   **Cite This**   📄 PDF

Preetam Ambudkar ; Anup M Upadhayaya ; Preeta Sharan ; Nisha C Rani   **All Authors** •••

34
Full
Text Views

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts
Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Theory

III. Design and Methodology

IV. Results and Discussion

V. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: This study presents a novel photonic crystal (PC) pressure sensor design and three-dimensional (3D) modeling and simulation for three different structures. A 2D PC slab b... **View more**

▸ **Metadata**

Abstract:

This study presents a novel photonic crystal (PC) pressure sensor design and three-dimensional (3D) modeling and simulation for three different structures. A 2D PC slab based on silicon is used to implement the device on a SiO2 substrate. Using Ansys Workbench and the Rsoft Optical tool, strain/stress simulations, as well as spectrum simulations, are carried out. In this study, the deformation of various structures, including rectangular, circular, and square diaphragms, as well as variations in refractive index are taken into account when calculating the sensitivity of the suggested pressure sensor. The numerical findings demonstrate that when pressure is applied, the refractive index fluctuations increase the transmission spectrum's resonant wavelength while the deformation factor decreases it. It has been demonstrated that there is a linear relationship between the applied pressure and the intended micro-resonant cavity's wavelength. The square diaphragm has shown maximum sensitivity compared to other structures. For the minimum detectable applied pressure of 0.5 Pa, the simulation result shows that for the three types of datagrams rectangle, square, and circular it is found that there is a distinct shift in wavelength. For the circular diaphragm's shift in wavelength is 742 μm, whereas the rectangle and square observed shift in wavelength is 956 μm and 1016 μm respectively. This can be applied in biomedical applications. The proposed sensor system has shown feasibility for future fabrication.

📋 Contents

I. Introduction

Closed Loop Control of BLDC Motor in Aircrafts for Flap Angle Applications

Ms Priyanka M[1], Mrs Resna S R[2]

PG Scholar, The Oxford College of Engineering, Bengaluru, Karnataka, India[1]

Assistant Professor, The Oxford College of Engineering, Bengaluru, Karnataka, India[2]

ABSTRACT: Actuator systems, which feature a combination of motors, actuators, and auto transformer rectifier units, are used in aircraft applications such as landing gears, flaps, and rudder systems. The frequency of these systems is 400Hz. These are AC to DC converters that are used in aircraft systems to provide consistent DC power to motors, which then control actuators. These converters are different depending on the pulses, such as 12 pulses, 18 pulses, and so on. A 12-pulse and 18-pulse AC to DC converter was proposed for 400Hz and 50Hz in this study for BLDC Motor. The results were shown in MATLAB/Simulink for both 12 pulse and 18 pulse ATRU.

I. INTRODUCTION

The source (AC generator or DC generator – battery source), conversion units (AC to DC converters, also known as ATRU system), and load are the three primary components of an aircraft system (which are usually an AC or DC load). The system in traditional aircrafts used to run on 28V DC power, but in more contemporary technological systems, the aircraft systems now run on 115V of AC electricity at 400Hz. When compared to conventional systems, the 115V three phase AC voltages require less winding, resulting in a compact system that produces the same amount of energy as a 400V system while being more efficient. Because weight has such a large impact on aircraft, these technologies are thought to be more reliable than others. The diagram shown below represents the ATRU in aircraft.

Figure.1 Aircraft Power Distribution System

| Submit Paper Online | Track Paper | Login to Author Home |

Home   IJRTI   Editiorial Board   For Author   Current Issue   Archive   Conference   All Policy   FAQ   Contact Us

---

For Authors

Submit Paper Online

Publication Guidelines

Publication Charges

HardCopy and DOI Charges

Pay Publication Charges

Track Paper

Research Area

All Policy

Forms / Download

Copyright Form

Undertaking Form

Paper Format

Sample Certificate

Sample Publication Letter

Sample Hard Copy of Journal

Published Issue Details

Current Issue

Archive

Conference Proposal

Recent Conference Details

Editorial Board

Editorial Board

Join As A Referral/Reviewer

Benefits of Referral/Reviewer

Other IMP Links

Published Paper Details

Paper Title:	**Smart Security System**
Authors Name:	Bommanahal Ramagiri Mata Thrigunyeshwari , Deepa Kiran , Pooja Pabhu , Rakshitha S , Mrs Resna SR, Mrs Sandhya Rai
Download E-Certificate:	**Download**
Author Reg. ID:	IJRTI_183418
Published Paper Id:	IJRTI2207295
Published In:	Volume 7 Issue 7, July-2022
DOI:	

Abstract: The present security system takes longer time for sending security alerts. It's reported that they are system which sends the alert message after a duration of the occurrence of security violation. This paper mainly focuses on development of system which works rapidly for short time period. The security is important to provide safety, therefore, a smart security system is being proposed in this paper which monitor and alert regarding the un-usual activities. This security system plays a vital role in securing the location. This remote security system which is used for detection of harmful gases or smoke, detection of fire, detection of theft, etc. It has been successfully completed, and this system send the notification to the owner's mobile phone regarding the problems in form of SMS alerts. This system also has an exhaust fan which works automatically when there is presence of harmful smoke or gas. The security system programmed in the Embedded C programming. The system is wireless therefore adaptable and greater efficiency. In this project we have developed an economically smart security system with fault-tolerant, secured, easy to install and use surveillance system through wireless connection using lower cost devices controlled by smart phones

Keywords:	
Cite Article:	**"Smart Security System"**, International Journal of Science & Engineering Development Research (www.ijrti.org), ISSN:2455-2631, Vol.7, Issue 7, page no.1711 - 1716, July-2022, Available :http://www.ijrti.org/papers/IJRTI2207295.pdf
Downloads:	000202573
ISSN:	2456-3315 | IMPACT FACTOR: 8.14 Calculated By Google Scholar| ESTD YEAR: 2016 An International Scholarly Open Access Journal, Peer-Reviewed, Refereed Journal Impact Factor 8.14 Calculate by Google Scholar and Semantic Scholar | AI-Powered Research Tool, Multidisciplinary, Monthly, Multilanguage Journal Indexing in All Major Database & Metadata, Citation Generator
Publication Details:	Published Paper ID: IJRTI2207295 Registration ID:183418 Published In: Volume 7 Issue 7, July-2022 DOI (Digital Object Identifier): Page No: 1711 - 1716 Country: Bangalore, Karnataka , India Research Area: Engineering Publisher : IJ Publication Published Paper URL : https://www.ijrti.org/viewpaperforall?paper=IJRTI2207295 Published Paper PDF : https://www.ijrti.org/papers/IJRTI2207295

Submit Paper Online

Check Paper Status

Call for Paper

Join As reviewer

All Policy

ISSN Details

INTERNATIONAL STANDARD SERIAL NUMBER

ISSN 2456-3315

9 772456 331502

DOI (A digital object identifier)

DOIONE

Providing A digital object identifier by DOI.ONE
How to Get DOI?

Conference

Conference Proposal

Recent Conference Details

Important Details

Power Loss Electrical Thermal Behaviour in EV Drivetrain System

Karishma J M
Dept, of EEE
The Oxford college of engineering
Bangalore

Devi Vighneshwari
Dept, of EEE
The Oxford college of engineering
Bangalore

Sumitha T L
Dept, of EEE
The Oxford college of engineering
Bangalore

Abstract -The setbacks and warm showing of a converter is a critical point of view to improve converters with accomplishment like huge constancy and capability, expense-reasonability and high impact thickness. Influence incidents and warm improvement are all things considered compelled by change of electric limits in Interleaved help converter and Cascaded H-range staggered alternator. Battery-controlled electric vehicle advancement is uncommonly popular and obtaining importance. EVs furthermore implied as battery electric vehicles in this an electric motor is used as opposed to an internal combustion engine due to this there is likelihood of power setbacks. So to reduce the hardships by using powertrain structure in EVs interleaved assist converter and streamed H with traversing inverters are used. This advance structure be imitated in Mat lab/Simulink programming.

Keywords - Interleaved boost converter, 5-level cascaded H bridge multilevel inverter, Battery, Load, single phase inverter

I. INTRODUCTION

To this stream time, battery-controlled electric vehicle advancement have life extraordinarily remarkable alongside getting outcomes. Specialists have being monetary arranging their full energy to make a helpful and solid powertrain structure. According to the course of action perspective, examining the going with specific in power hardware alternators: twisting release development and electromagnetic likeness, tremendous power part and high reliability is major. Semiconductor apparatuses are a basic piece of force electronic encoder. In the long run, wideband opening (WBG) semiconductors hold unrivaled substance property character and quality, and undeniably reasonable in colossal power EV applications when stood apart from standard silicon (Si) progression. At this point, advance toward producers and different assistants are further developing endeavors to speed up the cut of the pie of electric vehicles. To assist with accomplishing the current expectation, power hardware examiners are endeavoring to push EV power contraptions structures by developing their power thickness, and diminishing of framework expense, huge and volume among others. The DC/AC alternator be an immense piece about this EV, while that drives this electric engine about this vehicle before controlling this battery power. This hardships along warm showing of a alternator is a huge perspective for the headway of alternator including performant components like

huge resolute quality along capability, expense-feasibility and high impact thickness. The exhibiting approach in programming like LT zing preferably Saber, yet this huge issue considering this approach be gigantic calculational hour. The trading energies have being evaluated accompanied by the help of turn-on, switch off, along with rise along with fall times as long as the two Ids and Vds (MOS FET (channel source) stream along with voltage), by separating this electrical waveform season about this inverter's half platforms toward minuscule subintervals, along there after working out the change schedule for trading hardships. This electrothermal lead about this MOSFETs be settled utilize data sheet frames. this pattern, utilize Gaussian connection backslide (GPR) strategy, is made. That part work is applied for exploring this rising time along with fall time of the switches, along with capacitance of MOS FET shifts as demonstrated by the voltage-charge extent, so it clearly influences the trading setback. S inquiry table method be put in an application within reenactment into evaluate be trading along with on-state setbacks about IGBT semiconductors. That procedure gives an more modest, customized along with definite model about this semiconductors, as long as power electronic alternator assessment utilized standard computational time of CPUs. An warm amusement about IGBT component be planned through expect this replication about this edge work and that are necessary to improve the structure, for instance diminish the huge of the plan, increment the dependable, time to control off while scorching risks or lacks take place and besides to anticipate the most limit trading repeat, which depends upon crossing point temperature. Influence hardships and warm improvement are normally compelled by change of electrical limits, along impact mishaps are surveyed using the electrical stacking on contraptions and a short time later different through warm ideal for the period of convergence temperature of semiconductor gadgets.

The steadfastness assumption for an influence rectifier be significant as long as pre-improvement, along with it depends upon this crossing point temperature, subsequently, influence disaster along warm remarkable amusement assessment be required accompanied by this architect. Restricted part strategy (FEM) perspective is used with the mix of speedy calculation time reenactment, and precision of the negligible warm model be affirmed before this connection of FEM examination along with certifiable assessments. Idle channels are represented as key for getting high-capability reaction through this rectifier, along with system huge, heaviness along with expense have being especially affected, consequently ideal arrangement is

Seven Level Multilevel Inverter with Reduced Switches using Novel Design

Latif Unnisa
Department of Electrical & Electronics Engineering
The Oxford College of Engineering
Bommanahalli, Bengaluru, India

Jayakumar N
Department of Electrical & Electronics Engineering
The Oxford College of Engineering
Bommanahalli, Bengaluru, India

Someswari T
Department of Electrical & Electronics Engineering
The Oxford college of Engineering
Bommanahalli, Bengaluru, India

Abstract— **The Multilevel inverter usage has been expanded since the last 10 years. These new sorts of inverters are appropriate in different high power and high voltage applications because of their capacity to orchestrate waveforms with improved yield. This venture presents equipment seven level staggered inverter, utilizing microcontroller-based equipment. The staggered inverters certainly stand out enough to be noticed because of the particularity and effortlessness of control. The advancement of high-voltage semiconductors to drive inverter frameworks proceeds. According to a pragmatic perspective, staggered inverters can be founded on reasonable arrangements for applications where a high result voltage can be created utilizing medium voltage gadgets. Notwithstanding this central trademark, staggered inverters have top-notch execution because of the age of a ventured yield voltage nearer to the sine waveform which decreases the sounds in the result waveform.**

Keywords— MLI-multi level inverter; Microcontroller; Octo coupler; Mosfet.

I. INTRODUCTION

Power gadgets circuits assume crucial part underway of power utilizing environmentally friendly power sources. It is principally used to change over and control the sign. It changes over the sources, possibly it from DC/AC to AC/DC. The AC sources switched over completely to DC source is called rectifier and the DC source changed over completely to AC source is called inverter. The inverter changes over electrical energy. Staggered inverters are applied in space of high-power and medium voltage applications. It delivers an ideal MLI yield voltage from the different DC sources. The staggered inverter focuses because of its benefits in lower exchanging misfortune better electromagnetic similarity, lower music and higher voltage ability. The underlying inverters created were exclusively of two levels. The innovation got progressed and staggered inverters were created which can deliver an ideal result of various voltage levels from many sources of info DC voltage sources.

Staggered Inverter is one of the potential arrangements which is material in numerous applications frameworks. They are able to use in high voltage application with low symphonious additionally and effectively give the require power levels required by the high voltage drives.

II. LITERATURE SURVEY

1. Niraj VijayShankar Mishra (2020)

In this venture staggered inverter with switches. A Multilevel inverter is one sort of successful and pragmatic answer for the rising power interest and diminishing music of ac waveforms. This Multilevel inverter requires eight changes to accomplish the staggered yield. By diminishing switches and expanding levels will decrease channel costs, consonant substance, lessening exchanging misfortunes and expenses.

2. Jyoti M. Kharade (2017)

In this paper, three level, five level and seven level flowed H-span inverters have been reproduced by utilizing MATLAB/SIMULINK. The aftereffects of reproduced arrangement of Multilevel Cascaded H-Bridge inverter have been looked at based on changed boundaries, for example, number of switches, number of DC sources expected for activity.

3. Wahyu Mulyo Utomo, Afarulrazi (2018)

This paper presents a model of staggered inverter utilizing 7-level Cascaded H-Bridge of staggered DC-AC inverter to lessen complete symphonious contortion with various sinusoidal heartbeat width regulation like stage demeanor and stage resistance attitude. Recreation result of single-stage staggered inverter flowed H-span are investigated and confirmed in the MATLAB/Simulink programming. The outcome shows that the 7-level flowed H-Bridge staggered inverter with stage attitude procedure create less all out symphonious bending assuming it is contrasted with the stage resistance demeanor method.

4. C.S. Sharma, Rahul Tamrakar (2016)

This paper presents most recent improvement of demonstrating and control of a solitary stage 7 - level outpouring staggered DCAC network associated inverter. Every inverter span is related with a sunlight-based charger. The consequences of MATLAB demonstrating of the framework detail the similar investigation of inverter geographies which is the staggered inverter geography with diminished number of switches with almost sinusoidal result,

Browse ⌄   My Settings ⌄   Help ⌄

Institutional Sign In

Institutional Sign In

References

References is not available for this document.

All   ⌄

🔍

ADVANCED SEARCH

Conferences > 2023 3rd International Confer... ❓

Space vector Pulse Width Modulation with 7 Level ANPC Converters for Capacitor Voltage Balancing

Publisher: IEEE | Cite This | 📄 **PDF**

Sabari L Uma Maheswari ; Resna S R ; R. Yalini ; Anithamary M ; R. Pandian ; Gowrishankar P   **All Authors** •••

Ⓡ   🔗   ©   📁   🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Proposed System

III. Modular Multilevel
Converter (MMC)

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: The seven-level flowing, dynamic, unbiased, point-cinched converter of the half-breed. The converter geography is made up of an H-span for each stage and a three-level Ac... **View more**

▶ **Metadata**

Abstract:
The seven-level flowing, dynamic, unbiased, point-cinched converter of the half-breed. The converter geography is made up of an H-span for each stage and a three-level Active Neural Point Clamped (ANPC) converter. Through the selection of the converter's exchanging circumstances, the voltage of the H-span is ferociously maintained with fundamental force. With extensive geographic reenactment effects, working ethics, voltage regulating techniques, and converter restrictions are jointly studied. By directing the exchanging obligation patterns of 2 PWM signals, which veer the activity event of excess exchanging states in each exchanging cycle, the voltage slantingly the flying capacitor is also synchronised. There are recreation and trial grades available to demonstrate the effectiveness of this tactic. a method for altering the voltage of capacitors, including flying and dc-interface capacitors, for the 7 level ANPC (7L-ANPC) converters. 7L-ANPC converters are worked at major repetition rates whereas various switches are worked with a constant exchanging repetition rate. to test the connection among the zero grouping voltage and the typical impartial point current. The impartial point potential is meant to be controlled by an ideal zero-arrangement voltage. Altering the trading responsibility cycles also synchronises the voltage across the flying capacitor. Every time a recurrent swapping state occurs throughout an exchange period, it is altered. It is possible to test the validity of this tactic using simulation and exploratory data.

Published in: 2023 3rd International Conference on Innovative Practices in Technology and Management (ICIPTM)

Date of Conference: 22-24 February 2023

Date Added to IEEE *Xplore*: 10 May 2023

▶ **ISBN Information:**

INSPEC Accession Number: 23117612

DOI: 10.1109/ICIPTM57143.2023.10117778

Publisher: IEEE

Conference Location: Uttar Pradesh, India

📋 **Contents**

Technical Paper | Published: 21 August 2022

Processing and Characterization of Cu–10Sn/ZrO$_2$ Alloys Processed Via Stir Casting Technique: Mechanical Properties and Wear Behavior Studies

Prasad H. Nayak, M. Ravi Prakash, V. Vinay, H. K. Srinivas & M. J. Shivaram ✉

104 Accesses | Metrics

Abstract

In this study, various amounts of nano-zirconia (ZrO$_2$) were added as a reinforcement particle to synthesize Cu–10Sn–xZrO$_2$ alloy using stir casting techniques. The mechanical and wear properties of metal matrix composites depend on the type of reinforcement material, morphological features and amount of the reinforcement material is added to matrix. The developed alloy obtained hardness ranging from 69 to 87 BHN for the addition of 0 to 12 wt% of nano-ZrO$_2$ reinforcement particles. The ultimate tensile strength of developed alloys increased ranging from 271 MPa to 345 MPa, while yield strength showed 220 MPa to 263 MPa. Results indicate that ultimate tensile strength and yield strength of the reinforced alloys showed better mechanical properties than base alloy, which shows the significant influence of addition of reinforcement particles. The wear behavior of the developed alloys were examined using pin-on-disk tribometer. The developed reinforced alloys show that there was an increase in wear resistance with increasing the amount of nano-ZrO$_2$ particles. However, results indicate that increase in wear rate with increase in applied load and sliding speed, with the increase in reinforcement particles showed better wear resistance at higher applied load and sliding speed as compared to base alloy. Microstructural features of the worn surface carried out using scanning electron microscopy (SEM). Worn surface analysis exhibits that wear resistance increases at 8 and 12 wt% of nano-ZrO$_2$ particles. The prepared reinforced alloys exhibit excellent wear resistance, and hence, the developed reinforced alloys can be potentially used for various applications such as bearings and bushes.

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF

Rent this article via DeepDyve.

Micro-opto-electro-mechanical system based microcantilever sensor for biosensing applications

Anup M. Upadhyaya, Preeta Sharan, and Maneesh C. Srivastava

Not Accessible
Your library or personal account may give you access

🗎 (viewmedia.cfm?uri=josab-39-7-1736&seq=0)

✉ (mailto:?subject=Article Published in JOSA B&body=I would like to notify you about the following article published in JOSA B:%0AAnup M. Upadhyaya, Preeta Sharan, and Maneesh C. Srivastava, "Micro-opto-electro-mechanical system based microcantilever sensor for biosensing applications," J. Opt. Soc. Am. B 39, 1736-1742 (2022)%0Ahttps://opg.optica.org/josab/abstract.cfm?URI=josab-39-7-1736%0A--%0AThis is sent to you as an email notification feature from Optica Publishing Group: https://opg.optica.org)

∝ᣔ   99 ▾   ⒤

🗁 (/user/favorites_add_article.cfm?articles=476842)

Check for updates

PDF Article

(viewmedia.cfm?uri=josab-39-7-1736&seq=0)
Abstract

Full Article (viewmedia.cfm?uri=josab-39-7-1736&seq=0&html=true)
Loading [MathJax]/jax/output/HTML-CSS/jax.js

Figures (9)

EFFECT OF NANO ZIRCONIUM OXIDE (ZrO$_2$) PARTICLES ADDITION ON THE MECHANICAL BEHAVIOUR AND TENSILE FRACTOGRAPHY OF COPPER-TIN (Cu-Sn) ALLOY NANO COMPOSITES

Prasad H. Nayak[1], H.K. Srinivas[2], P. Rajendra[3], Madeva Nagaral[4*], M. Raviprakash[5], V. Auradi[6]

[1] VTU RRC, Belgaum; Dept. of Mechanical Engineering, Oxford College of Engineering, Bangalore, Karnataka, INDIA
[*]email: madev.nagaral@gmail.com
[2] Dept. of Mechanical Engineering, SJBIT, Bangalore, Karnataka, INDIA
[3] Dept. of Mechanical Engineering, Ramaiah Institute of Technology, Bangalore, Karnataka, INDIA
[4] Deputy Manager, Aircraft Research and Design Centre, HAL, Bangalore, Karnataka, INDIA
[5] Dept. of Mechanical Engineering, Oxford College of Engineering, Bangalore, Karnataka, INDIA
[6] Dept. of Mechanical Engineering, Siddaganga Institute of Technology, Tumkur, Karnataka, INDIA

Abstract

In the current investigation, an exertion is prepared to produce copper-10%tin-nano ZrO$_2$ composites by exploiting melt technique. 4, 8, and 12 wt.% of nano ZrO$_2$ particles are introduced to the copper-tin (Cu-Sn) base network. Microstructural studies are performed by SEM, EDS, and XRD examination. Mechanical portrayal of Cu-10%Sn-4, 8, 12 wt. % of nano ZrO$_2$ composites are measured conferring to ASTM norms. Scanning electron micrographs uncovered the uniform conveyance of nano ZrO$_2$ in the copper-tin amalgam framework. EDX investigation affirmed the presence of Zr and O in nano-ZrO$_2$ built-up composites, and XRD designs uncovered the Cu, Sn, and ZrO$_2$ phases. It is further noticed that hardness, yield strength of Cu-Sn compound increased with the content of 4, 8, and 12 wt.% of nano-ZrO$_2$. Elongation of nano composites diminishes by adding oxide particles. Fractography of tensile examples is completed by utilising SEM micrographs to comprehend the failure of components.

Keywords: Cu-Sn alloy, ZrO$_2$ nano particles, stir process, hardness, tensile properties, fractography

full article (1.09 MB)

PDF

Research Article | Published: 06 January 2023

Implementation of digital differentiator and digital integrator using quantum dot cellular automata

Preeta Sharan ✉, Anup M. Upadhyaya & Manpreet Singh Manna

Abstract

Current CMOS (Complementary metal–oxide–semiconductor) technology is no longer constrained in scaling by short channel effects. The semiconductor industry has developed a number of substitute technologies, including quantum-dot cellular automata, to get around these restrictions (QCA). In this study, a novel technique for developing digital differentiators and integrators is presented, employing QCA Technology as a key component. In order to design the digital differentiator focus has been given on no recursive simple tapped delay line differentiator called first difference differentiator and central difference differentiator. Further work has been done on design side of digital integrator. For this, time domain rectangular rule integrator has been realized with the support of QCA. By implementing the QCA, area of integrator circuit is obtained as 0.16 μm² and 0.14 μm² for 2 Bit and 4 Bit integrator circuit, respectively. Area occupied by central Difference differentiator is 0.52 μm², 4 Bit F-D Differentiator occupied 0.53 μm². Power calculation shows that power consumption is less than 6 nW in QCA-based integrator in comparison with CMOS technology. Further, it is observed that QCA-based digital differentiator and integrator have much reduced area compare to CMOS-based differentiator and integrator. These simple circuits can be further used in DSP filters like Cascaded Integrator-Comb (CIC).

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF	Rent this article via DeepDyve.
39,95 €	
Price includes VAT (India)	
Instant access to the full article PDF.	

Research Articles

High temperature erosion performance of NiCrAlY/Cr$_2$O$_3$/YSZ plasma spray coatings

G. M. S. Reddy, **C. D. Prasad** ✉ ⓘ, P. Patil, G. Shetty, N. Kakur & M. R. Ramesh

❝ Cite this article | ⤴ https://doi.org/10.1080/00202967.2023.2208899   Check for updates

🗎 **Full Article**   🖼 **Figures & data**   🗎 **References**   ❝ **Citations**   📊 **Metrics**   🖨 **Reprints & Permissions**   **Read this article**

ABSTRACT

The current investigation's objective was to assess the air jet erosion tester's ability to measure the erosive behaviour of plasma sprayed coatings on titanium-15 alloy. 65% NiCrAlY, 30% Cr$_2$O$_3$, and 5% YSZ make up the coating's chemical composition. A study of microstructure and phases was carried out. Microhardness and adhesive strength have both been measured in this work. With impact angles of 30° and 90° at 300°C, 500°C, and 700°C, Al$_2$O$_3$ erodent was utilised in a solid particle erosion test. An optical profilometer was used to calculate the erosion volume loss. The coating erosion resistance was found to be higher than the substrate sample for the test temperature that was employed, and this was more obvious at higher impact angles and higher temperatures The ductile character of the coating is seen in the contour of the deteriorated coating surface.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Ethical statement

The paper is the original work of all authors, has never been published, has only been submitted to this journal, and if approved, will not be submitted to any other journal in any language. It was created with the help of all authors.

Related research ⓘ

Recommended articles   Cited by

Investigation of High-Temperature Erosion Behavior of NiCrAlY/TiO$_2$ Plasma Coatings on Titanium Substrate

G. Madhu Sudana Reddy, C. Durga Prasad ✉, Shanthala Kollur, Avinash Lakshmikanthan, R. Suresh Kumar & C. R. Aprameya

Abstract

The current study examines the erosive behaviour of a 65% NiCrAlY + 35% TiO$_2$ plasma-sprayed coating on titanium-15 substrate at various temperatures. X-ray diffraction and scanning electron microscopy were used to characterize the coating. We assessed the coating's porosity, microhardness, surface abrasiveness, and adhesive power. At impact angles of 30° and 90°, solid particle erosion studies were conducted at various temperatures of 300°C, 500°C, and 700°C. The Al$_2$O$_3$ erodent was used in the hot air jet erosion tester to conduct the testing. Using an optical profilometer, the erosion volume loss of substrates with and without coatings was measured. At the various test temperatures used, it was noted that the coating's erosion resistance was found to be higher than the substrate's. For both impact angles, of 30° and 90°, it was discovered that the coating's erosion resistance improved with temperature, going from 300°C to 700°C. It can be seen from the shape of the degraded coating surface that the coating exhibits ductile behavior as a whole.

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF	Rent this article via DeepDyve.
39,95 €	
Price includes VAT (India)	
Instant access to the full article PDF.	
Learn more about Institutional subscriptions	

Effects of Polypropylene Waste Addition as Coarse Aggregates in Concrete: Experimental Characterization and Statistical Analysis

D. C. Naveen,[1] **K. Naresh** ✉ iD,[2] B. S. Keerthi Gowda iD,[3] Madhu Sudana Reddy G iD,[4] C. Durga Prasad iD,[5] and Ragavanantham Shanmugam iD [6]

Show more

Abstract

In recent times, thermoplastic waste materials are being extensively used as fine and coarse aggregates in the concrete mix as an environmentally friendly construction material. This study aims at utilizing polypropylene (PP) as a partial substitute for the conventional coarse aggregates in M30 grade concrete. The different replacement levels of coarse aggregates such as 0%, 20%, 40%, and 60% by weight were used in concrete. Sieve analysis, specific gravity, and water absorption tests were performed in all replacement levels of aggregates. The mechanical (compressive and split tensile tests) tests were conducted after 3, 14, and 28 days. The change in mechanical properties of concrete with the addition of different weight proportions of plastics was studied experimentally. Further, experimental values were predicted using the two-parameter Weibull distribution and artificial neural network (ANN)-based statistical approaches. The Levenberg–Marquardt algorithm was used in predicting the mechanical properties using the ANN. A good correlation was obtained between the experimental and predicted values with an error (%) of less than 10. The decrease in mechanical properties with the increase in replacement levels of coarse aggregates in concrete was observed in both experimental and predicted

ANALYSIS AND DESIGN OF MULTI-STOREY BUILDING USING ETABS

[1]GAYATHRI R, [2]HARSHITHA, [3]DR.T S MALLESHIAH

[1]Asst Professor, [2]Student, [3]Professor

[1,2,3]Department of civil Engineering,

[1,2,3]The Oxford College of Engineering, Bangalore, Karnataka, India

_____

Abstract: A multi-storey building has several floors at different levels above the ground. Analysis and design of multi-storied building deals with economic factor, serviceability and durability of a building. The foremost basic in structural engineering is the design of simple basic components and members of the building i.e., beams, columns, slabs and footings.Thisproject work aims to analysis and design of a four storied building using ETABS.

ETABS stands for Extended Three-Dimensional Analysis of Building Systems. It is a stand-alone structural analysis programme with a special purpose features for structural design and analysis of building systems. It is simple to use and user friendly and it is unique in its ability to address the full spectrum of tasks involved in the process of structural analysis and design. The main purpose of this software is to design multi-storey building in a systematic process. This project accomplishes a typical design project which is designed as per Indian Codes IS1893-Part 2:2000 and IS456:2000. The design involves determining the most suitable proportions of a structure and dimensioning and detailing the structural elements. Once the structure is analysed and designed it must have sufficient strength to withstand the maximum stresses to which it is subjected. This paper discuss the analysis of a conventional building (G+4) under the effect of shear forces and bending moment of beams and columns.

Keywords: ETABS, analysis, structural design, shear force, bending moment

_____

1. Introduction

This Project is based on the analysis and design of a four storied building. The determination of general shape, specific dimension and size of a building is known as structure analysis, so that it will perform the function for it and will safely withstand the influences which will act on throughout its useful life. In short, the specification of the required structure is the most important thing to decide many aspects of the structure, such as functional safety and economic aspects. The entire process of structural planning and designing requires not only imagination and calculations, but also science knowledge of Structural Engineer.In this Project, an effort made on planning, analysis and design of residential building using E-TABS. We have taken a plan of a building on the basis of which the analysis will be done for the whole structure. For the analysis of a building one has to consider all the possible loadings and see that the structure is safe against all possible loading conditions. The dead load and live loads are calculated and applied and the design for beams, columns, footing and slabs are obtained. Analysis of beams and columns has been done using E-TABS software.

2.Significance of The Study

Analysis of a building means the estimation of the response of structures towards variable external loads considering all the deviants that may occur. During the preliminary design-stage the estimated

external load is used to design the size and geometry of the structures of interconnected members by using local building code and specifications of the area where the structure is located. Therefore, assuring the structural integrity, durability etc. Neglecting this crucial analysis and design stage or erring during the process will result in catastrophic failure within the building structure which can, in the worst-case scenario may lead to the loss of lives. Since this stage is the most important, the margin of error is required to be close to zero. We are making use of a software called ETABS, which is a highly efficient structural analysis and design programme consisting of modelling tools, code-based load prescriptions, analysis methods and solution techniques. Through this study we want to signify the importance of analysing and design of a multi - storey building to ensure that it satisfies the safety and serviceability requirements with help of the software ETABS.

3.Review Of Related Studies

Balaji.U and Selvarasan (2016) used ETABS to analyse and design a multi-storeyed building which was under static and dynamic loading. In the study a G+13 storey residential building was studies for earthquake loads using ETABS. Here they assumed that the material property to be linear, static and dynamic analysis were performed. The non-linear analysis was performed by considering severe seismic zones and the behaviour

_____

[

Seismic Behaviour of High Rise Structure with Plan Irregularity

Shivanand C.G [1], Charan M Kudtarkar [2], Dhanyashree G Bhandarkar [3] Prakash N [4]

Assistant Professor, Department of Civil Engineering, The Oxford College of Engineering , Bangalore, Karnataka, India [1, 4]

PG student, Department of Civil Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India [2, 3]

Abstract:

The objective of this paper is to investigate various plan irregularities in buildings during seismic events using analytical methods. The study encompasses different structural systems, with particular emphasis on the dual system, to assess its impact on various irregularities. The analysis primarily focuses on the variations in displacements within the structural systems. The analyses conducted in this study aim to determine the seismic performance of high-rise buildings and evaluate the influence of structural irregularities on factors such as stiffness, strength, mass, and their combinations. By considering these factors, the researchers seek to understand how different irregularities affect the overall response of the buildings to seismic forces.

Keywords: Plan Irregularity, Seismic performance, Stiffness, Strength

I. INTRODUCTION

Plan irregularity in the context of building structures refers to deviations or variations from regular and symmetrical floor plans. These irregularities can occur in different forms, such as changes in shape, setbacks, protrusions, or asymmetry within the building layout. Plan irregularities are of particular concern because they can amplify the effects of seismic forces and compromise the overall structural integrity of a building. Analyzing and understanding the behavior of buildings with plan irregularities is crucial for designing safe and resilient structures that can withstand seismic events

II. SIGNIFICANCE OF STUDY

The study of plan irregularities in building structures holds immense importance for several reasons. Plan irregularities can have a substantial influence on the structural behavior and performance of buildings during seismic events. By thoroughly examining and understanding these irregularities, engineers and architects can identify potential weaknesses or areas of concern. This knowledge allows them to implement appropriate design strategies and structural measures to enhance the building's ability to withstand seismic forces and ensure the safety of its occupants.

Plan irregularities can impact the overall functionality and efficiency of a building. They can affect the distribution of loads, the behavior of structural elements, and the overall stability of the structure. By studying plan irregularities, architects and engineers can gain insights into how these irregularities influence factors such as stiffness, strength, and mass. This knowledge can inform design decisions, allowing for the optimization of the building's performance and functionality.

Figure-1. Different Plan Irregularities

The figure.1 describes different plan irregularities we may come across during configuration of any structure.

Figure-2 Plan Irregular Building (Kokaeli, Turkey, 1999)

Studying plan irregularities can lead to the development of improved design guidelines and practices. The findings and insights gained from such studies can contribute to the advancement of structural engineering knowledge and inform the development of design codes and standards. This, in turn, can lead to the creation of safer, more resilient, and structurally efficient buildings.

III. LITERATURE REVIEW

M. T. Raagavi et al. [1] has explored that the construction scenario where buildings often feature irregular geometries and elevations for aesthetic appeal, economic feasibility, or land availability reasons. However, studies indicated that regularly configured structures are generally more resistant to earthquakes than irregular ones. During seismic events, structures experience lateral deflections due to earthquake loads. The objective of this study was to investigate different types of building irregularities and their behavior when subjected to seismic forces. The researchers aimed to identify key parameters that was analyzed when assessing a structure's response to seismic forces. These parameters include displacement, base shear, storey drift, stiffness, strength, and

Seismic Response of High Rise Structure With Vertical Irregularity

Shivanand C.G [1], Dhanyashree G Bhandarkar [2], Charan M Kudtarkar [3]
Assistant Professor, Department of Civil Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India [1]
PG student, Department of Civil Engineering, The Oxford College of Engineering, Bangalore, Karnataka, India [2, 3]

Abstract:

Multi-story structures developed these days have an open first story as an unavoidable component. It has been nearly common in growing countries like India where extra space specifically for parking is difficult. The strength or stability of the structure when comes to open storey is always a concern to all civil engineers under seismic forces. The objective of the present work is to gain insight into the behaviour of structure by varying soft storey level in high rise building. Soft storey in the building is introduced by floor height increase of a particular floor. Dynamic analysis is carried out using FEM software. The various parameters studied are displacement, inter story drift and storey stiffness to analyse the effect of irregularity.

Keywords: Soft storey, Seismic forces, Dynamic analysis, Irregularity

I. INTRODUCTION

In most of the developing countries thought the globe, towns and cities are developing at a rapid rate. The faster rate of growth results in more vertical development, as almost all of the horizontal expansion has come to end. In high-rise building, the lateral loads on the building have greater risk. The lateral loads are both earthquake load and wind load. The direction of the lateral loads results into higher secondary moments and additional forces in the building.

II. IMPORTANCE OF STUDY

An earthquake or ground motion generates inertia forces in a building; the majority of the structure's mass is located at the floor level. Initially, inertia forces are dispersed downwards by slabs and beams to columns and walls and then to foundations. Therefore, columns and walls in the lower storey are designed to be stronger than those in the upper storey due to higher earthquake induced forces.

Figure-1. Failure of open first storey in Bhuj Earthquake
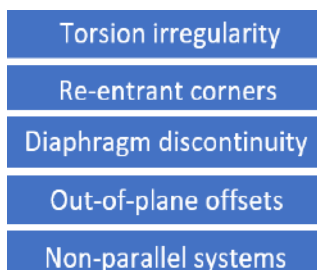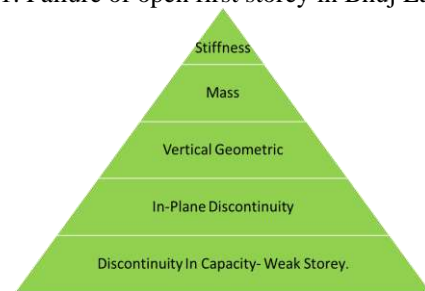

Figure-2. Different vertical Irregularities

The figure.2 describes different vertical irregularities we may come across during configuration of any structure.

Earthquakes are caused by differential movement in the earth's crust which results in the rapid release of stored strain energy that generates seismic waves causing ground shaking. This ground motion causes severe damage to the structure which is vulnerable to seismic waves. The way of behaving of a structure because of earthquake force relies upon its general shape, size, and math and furthermore the way that the seismic tremor force is done to the ground with next to no irregularity in the heap move. The seismic tremor powers created on various floors should be moved down along the level of the structure to the ground in the briefest way.

III. LITERATURE REVIEW

Hardik Bhensdadia et.al [1] studied G+4, G+9, and G+15 stories in different earthquake Zones & soft stories using the SAP 2000 y14 analysis package. The study is carried out using pushover analysis. Existing buildings situated in Rajkot are Considered for each case and are designed as per IS1893:2002, Earthquake Codal provision. Various building models were developed and pushover analysis was performed, pushover curve, and performed point, are Studied after the analysis. The displacement & Base shear of the building increases from the lower zone to the higher zone, because the magnitude of Intensity will be more for higher zones. Results of the study suggested that Beams & columns in a range of Life of Safety are required Beam jacketing & Column jacketing for increasing the stiffness of members in the exist buildings.

Sahara C Rathnasiri et.al [2] has done research on the development of an irregularity index based on dynamic characteristics to quantify the vertical geometric irregularities. The study compares the performance of the existing method in quantifying the degree of irregularity for the selected irregular building. These are analyzed using SAP 2000 software. Proposed irregularity index (Ψ) = Vf, regular / Vf, irregular where V is the fundamental mode base shear of the irregular frame. G+7 storey having 4bays with a uniform bay width of 5m and uniform storey height of 3.2m is adopted in this study by modeling 4 models having a floating column, stepped frame, setback frames, and normal building. Base shear and

ANALYSIS AND DESIGN OF MULTI-STOREY BUILDING USING ETABS

[1]GAYATHRI R, [2]HARSHITHA, [3]DR.T S MALLESHIAH

[1]Asst Professor, [2]Student, [3]Professor

[1,2,3]Department of civil Engineering,

[1,2,3]The Oxford College of Engineering, Bangalore, Karnataka, India

_____

Abstract: A multi-storey building has several floors at different levels above the ground. Analysis and design of multi-storied building deals with economic factor, serviceability and durability of a building. The foremost basic in structural engineering is the design of simple basic components and members of the building i.e., beams, columns, slabs and footings.Thisproject work aims to analysis and design of a four storied building using ETABS.

ETABS stands for Extended Three-Dimensional Analysis of Building Systems. It is a stand-alone structural analysis programme with a special purpose features for structural design and analysis of building systems. It is simple to use and user friendly and it is unique in its ability to address the full spectrum of tasks involved in the process of structural analysis and design. The main purpose of this software is to design multi-storey building in a systematic process. This project accomplishes a typical design project which is designed as per Indian Codes IS1893-Part 2:2000 and IS456:2000. The design involves determining the most suitable proportions of a structure and dimensioning and detailing the structural elements. Once the structure is analysed and designed it must have sufficient strength to withstand the maximum stresses to which it is subjected. This paper discuss the analysis of a conventional building (G+4) under the effect of shear forces and bending moment of beams and columns.

Keywords: ETABS, analysis, structural design, shear force, bending moment

_____

1. Introduction

This Project is based on the analysis and design of a four storied building. The determination of general shape, specific dimension and size of a building is known as structure analysis, so that it will perform the function for it and will safely withstand the influences which will act on throughout its useful life. In short, the specification of the required structure is the most important thing to decide many aspects of the structure, such as functional safety and economic aspects. The entire process of structural planning and designing requires not only imagination and calculations, but also science knowledge of Structural Engineer.In this Project, an effort made on planning, analysis and design of residential building using E-TABS. We have taken a plan of a building on the basis of which the analysis will be done for the whole structure. For the analysis of a building one has to consider all the possible loadings and see that the structure is safe against all possible loading conditions. The dead load and live loads are calculated and applied and the design for beams, columns, footing and slabs are obtained. Analysis of beams and columns has been done using E-TABS software.

2.Significance of The Study

Analysis of a building means the estimation of the response of structures towards variable external loads considering all the deviants that may occur. During the preliminary design-stage the estimated external load is used to design the size and geometry of the structures of interconnected members by using local building code and specifications of the area where the structure is located. Therefore, assuring the structural integrity, durability etc. Neglecting this crucial analysis and design stage or erring during the process will result in catastrophic failure within the building structure which can, in the worst-case scenario may lead to the loss of lives. Since this stage is the most important, the margin of error is required to be close to zero. We are making use of a software called ETABS, which is a highly efficient structural analysis and design programme consisting of modelling tools, code-based load prescriptions, analysis methods and solution techniques. Through this study we want to signify the importance of analysing and design of a multi - storey building to ensure that it satisfies the safety and serviceability requirements with help of the software ETABS.

3.Review Of Related Studies

Balaji.U and Selvarasan (2016) used ETABS to analyse and design a multi-storeyed building which was under static and dynamic loading. In the study a G+13 storey residential building was studies for earthquake loads using ETABS. Here they assumed that the material property to be linear, static and dynamic analysis were performed. The non-linear analysis was performed by considering severe seismic zones and the behaviour

_____

[

Construction Sequence Analysis of G+30 RCC, Steel Residential Building with Floating Column

Mr. T.S.Prashanth Hathwar[1], Mr. Rizwanuddin[2]

[1]Assistant Professor, Civil Engineering, The Oxford College of Engineering, Bangalore.

[2]Student, M.Tech, Structural Engineering, The Oxford college of Engineering, Bangalore.

Abstract- **While examining a multistory building frame using FEM based software mostly a complete model is made then the model is applied with loads at once, but this is not the case in real structures, the actual load comes on the structure in steps, as the construction progresses stages by stages. So, to overcome the above issues construction sequence analysis came in to existence, which is a non-linear static analysis method that analysis the structure in step wise by creating an auto construction load case in FEM based software. The current exploration conducted on a G+30 residential structure having vertical irregularity which is analyzed by methods namely construction sequence analysis for dead load case and conventional Equivalent static analysis along with dynamic response spectrum analysis all this is achieved in CSI ETABS 2016 software. The structure is RC and steel frame type consisting of floating column and resides in zone 4 and zone 2 as per Indian standard code IS: 1893-2016. Results such as bending moment, shear force, column axial force, story drift, displacement are abstracted from the analyze results which are collated with CSA, ESA and considering load combination to compare the results with RSA.**

Key words- Construction Sequence Analysis, Equivalent Static Analysis, Floating Column, ETABS, response spectrum analysis.

1. INTRODUCTION

The frame structure is mostly fails during construction stage. Some of the failure involve such as components failure, joints failure, incomplete member failure, under strength reinforced concrete member failure. Some failures are mostly happened due to poor stability that may be frame and often may be due to unstable soil strata. This failure during construction process will be uneconomical to the construction cost and may cause injuries and loss of life may happen

In analysis of a frame there are number of facts that has a key role for the accuracy of analysis some of them are listed below

1. The load from construction process due to stage-by-stage construction
2. The impact of column shortening due to creep and shrinkage
3. Time-dependent properties impact of material such as shrinkage
4. The effect due to irregularity of frame structure
5. Proper distribution of stress and displacements coming from upper storeys

The definition of construction sequence analysis (CSA) is that in case of analyzing a structure using FEM based software mostly a complete model is made then the model is applied with loads at once, but this is not the case in real structures, the actual load comes on the structure in steps, as the construction progresses stages by stages. So, to overcome the above issues construction sequence analysis came in to existence, which is a non-linear static analyzing method that analyses the structure in step wise by creating an auto construction load case in FEM base software.

Construction sequence analysis is applied to all type of structures which are construct in stages, the major use of construction sequence analysis is in a structure where floating column are present. Since a conventional equivalent linear static

Analysis neglects the effect of floating column. Elements that are vertical that rests either on beam or on transfer girder but does not touch the foundation is referred to as a floating or hanging column. A structure with floating columns is used to create more floor space and the floor space may be utilized as a parking lot and considerably more. The transfer girders in seismically active areas must be designed, properly analyzed, and detailed.

OBJECTIVES

- To know the real behavior in tall structure under non- linear static construction sequence analysis considering only dead load case
- To understand the load transfer mechanism in floating column and to eliminate virendel truss action from structure
- To get the analysis results from RCC, Steel structure having vertical irregularity with floating column
- To compare the results which are collated with CSA, ESA and considering load combination to compare the results with RSA

2. MODELLING AND ANALYSIS

The four models consider in this study with two models of reinforced concrete in seismic zone 2, 4 and two models of steel structure in seismic zone 2, 4. The plan and position of floating column is kept same for all four models.

Renewable Energy Based Smart Grid Construction Using Hybrid Design in Control System with Enhancing of Energy Efficiency of Electronic Converters for Power Electronic in Electric Vehicles

Suhasini Sodagudi,[1] C Manjula,[2] M. S. Vinmathi,[3] R. Shekhar,[4] José Luis Arias Gonzáles,[5] C. Ramesh Kumar,[6] Gaurav Dhiman ID ,[7,8,9] and **A. R. Murali Dharan** ✉ ID [1,10]

Show more

Academic Editor: R Sitharthan

Abstract

The power electronic interface is critical in matching a distributed generation (DG) unit's characteristics to grid requirements as most DG technologies rely on renewable energy. Increased adoption of electric vehicles (EV) is seen as a positive step toward minimizing air pollution as well as carbon emissions. Rapid proliferation of electric vehicles as well as charging stations has exacerbated voltage quality as well as harmonic distortion difficulties, which harm the efficiency of combined renewable energy. This research proposes novel hybrid design techniques in control systems that enhance the energy efficiency of electronic converters for power electronics. The control system enhancement has been carried out using a hybrid energy storage electric convertor, and energy efficiency is improved using a synergetic battery reference adaptive controller. A plug-in hybrid electric vehicle (PHEV)'s internal combustion engine with a small photovoltaic (PV) module is utilised to assess a proposed control method which effectively regulates electric power on-grid by draining electricity from batteries during peak hours as well as then charging them during off-peak times, lowering the load on the converter as well as allowing electric

Interaction studies of flavonoids with Bcl-2 protein to re-activate apoptosis in JurkatT-cells by induced TRAIL

Manjunatha Bukkambudi Krishnaswamy[a*], Valarmathy Kanagasabapathy[a], Ajitha Gomathi[a], Divakara Ramachandrappa[a], Pratheeksha Gurumurthy[a], Roshni Korpati Kiran Kumar[a], Urvi Narayan[a], Krithika Shanmugam[a], Girinath G Pillai[b]

[a]Department of Biotechnology, The Oxford College of Engineering, Bangalore, India
[b]Discovery Chemistry, Nyro Research India, Kochi, India

Abstract. Immune cell malignancy such as Acute T- cell Lymphoblastic Leukaemia is generally associated with high rate of relapse and often does not respond to salvage therapy. Thus, identification of novel treatment regimens or cell apoptosis pathways and therapeutic agents without major side effects is necessary. TRAIL-induced apoptotic pathway is one such pathway that is usually blocked by anti-apoptotic proteins like Bcl-2. This research estimated and compared the ability of few common flavonoids to re-activate TRAIL-induced apoptosis by blocking Bcl-2 protein. Studies were carried out to understand the interaction between binding energy of the Flavonoids with Bcl-2 protein in cancer cells. The pharmacokinetic and toxicity profiling was performed to study the potency of the flavonoids as a lead candidate. Baicalein was selected as lead molecule because of its lower binding energy and its ability to increase Mitochondrial Membrane Potential as studied from its ADME properties. For validation of apoptosis of Baicalein by TRAIL-induced owing to Bcl-2 analysis of cell cycle and Gene expression studies were carried out on Jurkat T cells.

Keywords: flavonoids, acute lymphoblastic leukaemia, Jurkat cells, Bcl-2 protein, TRAIL, docking, pharmacokinetic analysis, Mitochondrial Membrane Potential, baicalein, ADME properties

INTRODUCTION

T-cell acute-lymphoblastic leukaemia (T-ALL) a variety of malignancy of T-cells, where the bone marrow produces defective T-cells which are immature and which subsequently accumulate in liver, spleen and lymph nodes. B-lymphoblastic counterpart is naturally distinct from T-ALL and shows dissimilar response to treatment systems (Elizabeth *et al.,* 2016). Indian Incidence rate varies with region, gender and age. Incidence rate according to study in 2018 was 101/100000 in boys and 62/100000 in girls. T-ALL is slightly more common in boys than girls with a peak incidence of 2-5 years. T-ALL constitutes about 15%-20% of total ALL though in India higher proportion up to 50% is reported (Agarwal & Sahi, 2020). Symptoms of T-ALL include anaemia, weakness, fever, purpura, nosebleeds, bleeding gums and sweats. T-ALL frequently causes swollen lymph nodes in the central part of chest (mediastinum) which may possibly distress breathing or the circulation (Jordan *et al.,* 2017).

Causes of T-ALL are certain genetic conditions and mutations in genes like NOTCH1, WT1, EZH2 and so on, radiation exposure, exposure to chemicals like benzene, viruses like HTLV-1. Diagnostic tests for T-ALL include certain lymph node biopsy, lumbar puncture, blood tests, karyotyping, bone marrow tests and

*Author for correspondence: Manjunatha Bukkambudi Krishnaswamy, Department of Biotechnology, The Oxford College of Engineering, Bangalore, India. Email – enghodbt@theoxford.edu

Original Article | Published: 03 July 2023

Antineoplastic Effects of *Mucuna pruriens* Against Human Colorectal Adenocarcinoma

Sagar Seetharamaiah, Vidya Shimoga Muddappa, Manjunatha Bukkambudhi Krishnaswamy & Rashmi Kanugodu Vasappa ✉

Abstract

Mucuna pruriens (MP) which is commonly known as "Velvet Bean" is an underutilized legume traditionally used to treat Parkinson's disease and male fertility issues. Extracts of MP have also been identified for their antidiabetic, antioxidant, and antineoplastic effects. Commonly, the antioxidant and anticancer properties of a drug are linked together as antioxidants scavenge free radicals and prevent the cellular DNA damage which could result in cancer development. In this investigation, comparative assessment of the anticancer and antioxidant potentials of methanolic seed extracts from two common varieties of MP, *Mucuna pruriens var. pruriens* (MPP) and *Mucuna pruriens var. utilis* (MPU) against human colorectal cancer adenocarcinoma cells COLO-205, was carried out. The highest antioxidant potential was recorded with MPP with an IC_{50} of 45.71 µg/ml. The in vitro antiproliferative effects of MPP and MPU on COLO-205 showed an IC_{50} of 131.1 µg/ml and 246.9 µg/ml respectively. Our results revealed intervention of the MPP and MPU extracts in growth kinetics of the COLO-205 cells in concomitance with apoptosis induction up to 8.73- and 5.58-folds respectively. The AO/EtBr dual staining and the flow cytometry results also confirmed the better apoptotic efficacy of MPP over MPU. MPP at a concentration of 160 µg/ml exhibited highest apoptosis and cell cycle arrest. Furthermore, effect of the seed extracts on p53 expression was investigated by quantitative RT-PCR and a maximum upregulation of 1.12-fold was recorded with MPP.

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF	Rent this article via DeepDyve.
39,95 €	

Data Availability

The data generated and the materials used in the study are available with the corresponding author and available on reasonable request.

References

1. Cancer. (n.d.). Retrieved July 26, 2022, from https://www.who.int/news-room/fact-sheets/detail/cancer

2. Ferlay, J., Colombet, M., Soerjomataram, I., Parkin, D. M., Piñeros, M., Znaor, A., & Bray, F. (2021). Cancer statistics for the year 2020: An overview. *International Journal of Cancer, 149*(4), 778–789. https://doi.org/10.1002/IJC.33588

3. American Cancer Society. Colorectal cancer facts & figures 2020–2022. Published online. (2020). Retrieved September 25, 2021, from https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/colorectal-cancer-facts-and-figures/colorectal-cancer-facts-and-figures-2020-2022.pdf.

4. ACS Medical and Editorial content team. Treating colorectal cancers. (2020). Retrieved September 25, 2021, from https://www.cancer.org/cancer/colon-rectal-cancer/treating.html

5. Bhattacharya, S. (2021). Fabrication of poly(sarcosine), poly (ethylene glycol), and poly (lactic-co-glycolic acid) polymeric nanoparticles for cancer drug delivery. *Journal of Drug Delivery Science and Technology, 61*, 102194. https://doi.org/10.1016/J.JDDST.2020.102194

6. Bhattacharya, S., Singh, D., Aich, J., Ajazuddin, & Shete, M. B. (2022). Development and characterization of hyaluronic acid surface scaffolds encorafenib loaded polymeric nanoparticles for colorectal cancer targeting. *Materials Today Communications, 31*, 103757. https://doi.org/10.1016/J.MTCOMM.2022.103757

7. Bhattacharya, S., Patel, R., & Joshi, A. (2022). The most recent discoveries in heterocyclic nanoformulations for targeted anticancer therapy. *Mini-*

Reviews in Medicinal Chemistry, 22(13), 1735–1751.
https://doi.org/10.2174/1389557522033220202164839

8. Lopes, C. M., Dourado, A., & Oliveira, R. (2017). Phytotherapy and nutritional supplements on breast cancer. *BioMed Research International, 2017*. https://doi.org/10.1155/2017/7207983

9. Salehi, B., Zucca, P., Sharifi-Rad, M., Pezzani, R., Rajabi, S., Setzer, W. N., … Sharifi-Rad, J. (2018). Phytotherapeutics in cancer invasion and metastasis. *Phytotherapy Research*, *32*(8), 1425–1449. https://doi.org/10.1002/PTR.6087

10. Kaefer, C. M., & Milner, J. A. (2008). The role of herbs and spices in cancer prevention. *The Journal of Nutritional Biochemistry, 19*(6), 347–361. https://doi.org/10.1016/J.JNUTBIO.2007.11.003

11. Wu, T., Munro, A. J., Guanjian, L., & Liu, G. J. (2005). Chinese medical herbs for chemotherapy side effects in colorectal cancer patients. *Cochrane Database of Systematic Reviews*, *2010*(1). https://doi.org/10.1002/14651858.CD004540.PUB2/INFORMATION/EN

12. Ohnishi, S., & Takeda, H. (2015). Herbal medicines for the treatment of cancer chemotherapy-induced side effects. *Frontiers in Pharmacology, 6*(FEB), 14. https://doi.org/10.3389/FPHAR.2015.00014/BIBTEX

13. Herbal drugs industry: Practical approach to industrial pharmacognosy | WorldCat.org. (n.d.). Retrieved March 1, 2023, from https://www.worldcat.org/title/herbal-drugs-industry-practical-approach-to-industrial-pharmacognosy/oclc/36556629

14. Sathiyanarayanan, L. & Arulmozhi, S. (2007). Mucuna pruriens Linn. - A comprehensive review. *Pharmacognosy Reviews*, *1*(1), 157–162.

15. Lampariello, L., Cortelazzo, A., Guerranti, R., Sticozzi, C., & Valacchi, G. (2012). The magic velvet bean of Mucuna pruriens. *Journal of Traditional and Complementary Medicine, 2*(4), 331–339. https://doi.org/10.1016/S2225-4110(16)30119-5

16. Rai, S. N., Chaturvedi, V. K., Singh, P., Singh, B. K., & Singh, M. P. (2020). Mucuna pruriens in Parkinson's and in some other diseases: Recent advancement and future prospective. *3 Biotech*, *10*(12). https://doi.org/10.1007/S13205-020-02532-7

17. Majekodunmi, S. O., Oyagbemi, A. A., Umukoro, S., & Odeku, O. A. (2011). Evaluation of the anti-diabetic properties of Mucuna pruriens seed extract. *Asian Pacific Journal of Tropical Medicine, 4*(8), 632–636. https://doi.org/10.1016/S1995-7645(11)60161-2

18. Champatisingh, D., Sahu, P., Pal, A., & Nanda, G. (2011). Anticataleptic and antiepileptic activity of ethanolic extract of leaves of Mucuna pruriens: A study on role of dopaminergic system in epilepsy in albino rats. *Indian Journal of Pharmacology, 43*(2), 197–199. https://doi.org/10.4103/0253-7613.77368

19. Salau, A. O., & Odeleye, O. M. (2007). Antimicrobial activity of Mucuna pruriens on selected bacteria. *African Journal of Biotechnology, 6*(18), 2091–2092. https://doi.org/10.5897/AJB2007.000-2324

20. Han, D. G., Bae, M. J., & An, B. J. (2022). Anti-inflammatory activity of velvet bean (Mucuna pruriens) substances in LPS-stimulated RAW 264.7 macrophages. *Molecules (Basel, Switzerland), 27*(24). https://doi.org/10.3390/MOLECULES27248797

21. Kalidass, C., Kalidass, C., & Mohan, V. R. (2010). Nutritional and antinutritional composition of itching bean (Mucuna pruriens (L.) DC var. pruriens): an underutilized tribal pulse in western Ghats, Tamil Nadu. *Tropical and Subtropical Agroecosystems*, *14*(1), 279–293. Retrieved from https://www.revista.ccba.uady.mx/ojs/index.php/TSA/article/view/657

22. Patil, R., Aware, C., Gaikwad, S., Rajebhosale, M., Bapat, V., Yadav, S., & Jadhav, J. (2019). RP-HPLC analysis of anti-Parkinson's drug l-DOPA content in Mucuna species from Indian subcontinent. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences, 89*(4), 1413–1420. https://doi.org/10.1007/S40011-018-01071-9

23. Tungmunnithum, D., Thongboonyou, A., Pholboon, A., & Yangsabai, A. (2018). Flavonoids and other phenolic compounds from medicinal plants for pharmaceutical and medical aspects: An overview. *Medicines, 5*(3), 93. https://doi.org/10.3390/MEDICINES5030093

24. Nandi, S., Vracko, M., & Bagchi, M. C. (2007). Anticancer activity of selected phenolic compounds: QSAR studies using ridge regression and neural networks. *Chemical Biology & Drug Design, 70*(5), 424–436. https://doi.org/10.1111/J.1747-0285.2007.00575.X

25. Zhou, Q., Pan, H., & Li, J. (2019). Molecular insights into potential contributions of natural polyphenols to lung cancer treatment. *Cancers, 11*(10), 1565. https://doi.org/10.3390/CANCERS11101565

26. Leelambika, M., & Sathyanarayana, N. (2011). Genetic characterization of Indian Mucuna (Leguminoceae) species using morphometric and random amplification of polymorphic DNA (RAPD) approaches. *Plant Biosystems, 145*(4), 786–797. https://doi.org/10.1080/11263504.2011.610924

27. de Mesquita, M. L., Grellier, P., Mambu, L., de Paula, J. E., & Espindola, L. S. (2007). In vitro antiplasmodial activity of Brazilian Cerrado plants used as traditional remedies. *Journal of Ethnopharmacology, 110*(1), 165–170. https://doi.org/10.1016/J.JEP.2006.09.015

28. Evans, W. C. (2009). *Trease and Evans' pharmacognosy*, 16th Edn. In Graham P., Urquhart J., & Conn F. (Eds). Elsevier Health Sciences.

29. Jamil, M., Mirza, B., Yasmeen, A., & Khan, M. A. (2012). Pharmacological activities of selected plant species and their phytochemical analysis. *Journal of Medicinal Plants Research, 6*(37), 5013–5022. https://doi.org/10.5897/JMPR09.259

30. Sridhar, K., & Charles, A. L. (2019). In vitro antioxidant activity of Kyoho grape extracts in DPPH and ABTS assays: Estimation methods for EC50 using advanced statistical programs. *Food Chemistry, 275*, 41–49. https://doi.org/10.1016/J.FOODCHEM.2018.09.040

31. Gonzalez, R. J., & Tarloff, J. B. (2001). Evaluation of hepatic subcellular fractions for Alamar blue and MTT reductase activity. *Toxicology in Vitro, 15*(3), 257–259. https://doi.org/10.1016/S0887-2333(01)00014-5

32. Thylur, R. P., Senthivinayagam, S., Campbell, E. M., Rangasamy, V., Thorenoor, N., Sondarva, G., ... Rana, B. (2011). Mixed lineage kinase 3 modulates β-catenin signaling in cancer cells. *Journal of Biological Chemistry, 286*(43), 37470–37482. https://doi.org/10.1074/JBC.M111.298943/ATTACHMENT/EBBAE4D4-3898-4D9B-827D-860CD43659B8/MMC1.ZIP

33. Azimian-Zavareh, V., Hossein, G., & Janzamin, E. (2012). Effect of lithium chloride and antineoplastic drugs on survival and cell cycle of androgen-dependent prostate cancer LNCap cells. *Indian Journal of Pharmacology, 44*(6), 714. https://doi.org/10.4103/0253-7613.103265

34. Vermes, I., Haanen, C., Steffens-Nakken, H., & Reutellingsperger, C. (1995). A novel assay for apoptosis flow cytometric detection of phosphatidylserine expression on early apoptotic cells using fluorescein labelled Annexin V. *Journal of Immunological Methods, 184*(1), 39–51. https://doi.org/10.1016/0022-1759(95)00072-I

35. Liu, K., Liu, P.-c, Liu, R., & Wu, X. (2015). Dual AO/EB staining to detect apoptosis in osteosarcoma cells compared with flow cytometry. *Medical Science Monitor Basic Research, 21*, 15. https://doi.org/10.12659/MSMBR.893327

36. Schmittgen, T. D., & Livak, K. J. (2008). Analyzing real-time PCR data by the comparative CT method. *Nature Protocols, 3*(6), 1101–1108. https://doi.org/10.1038/nprot.2008.73

37. Beta, T., Nam, S., Dexter, J. E., & Sapirstein, H. D. (2005). Phenolic content and antioxidant activity of pearled wheat and roller-milled fractions. *Cereal Chemistry, 82*(4), 390–393. https://doi.org/10.1094/CC-82-0390

38. Leelambika, M., Mahesh, S., Jaheer, M., & Sathyanarayana, N. (2010). Comparative evaluation of genetic diversity among Indian Mucuna species using morphometric, biochemical and molecular approaches. *World Journal of Agricultural Sciences, 6*(5), 568–578.

39. Sathyanarayana, N., Mahesh, S., Jaheer, M., & Leelambika, M. (2012). Genetic diversity of wild and cultivated Mucuna pruriens (L.) DC. accessions analyzed using thirty morpho-agronomical characters. *Tropical and Subtropical Agroecosystems, 15*(2), 249–259.

40. Uma, S., & Gurumoorthi, P. (2013). Dietary antioxidant activities in different germplasms of Mucuna. *Journal of Medicinal Food, 16*(7), 618–624. https://doi.org/10.1089/JMF.2012.2697

41. Dhanasekaran, M., Tharakan, B., Manyam, B. V., Vosburg, H., Plummer, M., & Lee Plummer, R. E. (2008). Antiparkinson drug – Mucuna pruriens shows antioxidant and metal chelating activity. *Phytotherapy Research, 22*(1), 6–11. https://doi.org/10.1002/PTR.2109

42. Rajeshwar, Y., Gupta, M., & Mazumder, U. K. (2005). Antitumor activity and in vivo antioxidant status of Mucuna pruriens (Fabaceae). *Seeds against Ehrlich ascites carcinoma in Swiss albino mice, 4*, 46–53.

43. Rakam, G. K., & Sundararajan, R. (2020). In vitro antioxidant activity of Bougainvillea glabra and Mucuna pruriens. *International Journal of Research in Pharmaceutical Sciences, 11*(1), 806–812. https://doi.org/10.26452/ijrps.v11i1.1898

44. Klippstein, R., Bansal, S. S., & Al-Jamal, K. T. (2016). Doxorubicin enhances curcumin's cytotoxicity in human prostate cancer cells in vitro by enhancing its cellular uptake. *International Journal of Pharmaceutics, 514*(1), 169–175. https://doi.org/10.1016/J.IJPHARM.2016.08.003

45. Tumbas-Saponjac, V., Akpoveso, O.-O.P., Oyeniran, O. I., Desančić, J., & Četojević-Simin, D. (2020). Antioxidant activity and enhanced cytotoxicity of aqueous *Mucuna pruriens* L. leaf extract by doxorubicin on different human cancer cell lines. *Pharmacognosy Magazine, 16*(68), 224. https://doi.org/10.4103/PM.PM_413_19

46. Gupta, P. S., & Patel, S. (2020). In vitro antimitotic and cytotoxic potential of plant extracts: A comparative study of Mucuna pruriens, Asteracantha longifolia and Sphaeranthus indicus. *Future Journal of Pharmaceutical Sciences, 6*(1), 1–9. https://doi.org/10.1186/S43094-020-00137-8

47. Costa, A. C. C., Oliveira, L., Dorea, M. A., Leite, G., Amorim, R., Neto, E. D. S. M., … Fontelles, M. J. (2018). PO-029 supercritical carbon dioxide extract of mucuna pruriens inhibits brain cancer tumour growth in rats. *ESMO Open*, *3*, A239. https://doi.org/10.1136/ESMOOPEN-2018-EACR25.564

48. Lu, K. H., Chang, Y. F., Yin, P. H., Chen, T. T., Ho, Y. L., Chang, Y. S., & Chi, C. W. (2010). In vitro and in vivo apoptosis-inducing antileukemic effects of Mucuna macrocarpa stem extract on HL-60 human leukemia cells. *Integrative Cancer Therapies, 9*(3), 298–308. https://doi.org/10.1177/1534735410378661

49. Lasky, T., & Silbergeld, E. (1996). p53 mutations associated with breast, colorectal, liver, lung, and ovarian cancers. *Environmental Health Perspectives, 104*(12), 1324–1331. https://doi.org/10.1289/EHP.961041324

Acknowledgements

Author information

Authors and Affiliations

Department of Biotechnology, Sir M Visvesvaraya Institute of Technology, International Airport Road, Hunasamaranahalli, Bengaluru, 562157, Karnataka, India

Sagar Seetharamaiah & Rashmi Kanugodu Vasappa

Department of Biotechnology Engineering, NMAM Institute of Technology - Affiliated to NITTE (Deemed to Be University), Nitte, 574110, India

Vidya Shimoga Muddappa

Department of Biotechnology, Oxford College of Engineering, 10Th Milestone, Hosur Road, Bangalore, 560068, India

Manjunatha Bukkambudhi Krishnaswamy

Contributions

Rashmi Kanugodu Vasappa conceptualized the study, supervised the experiments, analyzed the results, reviewed, and edited the manuscript. Sagar Seetharamaiah designed and executed experiments, analyzed the results, and wrote the original manuscript. Vidya Shimoga Muddappa and Manjunatha Bukkambudhi Krishnaswamy were responsible for critical revision of the manuscript and intellectual inputs. All authors read and approved the final manuscript.

Corresponding author

Correspondence to [Rashmi Kanugodu Vasappa](#).

Ethics declarations

Ethical Approval

Not applicable.

Consent to Participate

Not applicable.

Consent to Publish

Not applicable.

Competing Interests

The authors declare no competing interests.

Additional information

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Rights and permissions

[Reprints and Permissions](#)

About this article

Cite this article

Recent Trends in Communication and Intelligent Systems pp 13–19

Implementation and Image Transformation for Ground Penetration Image Radar System

Dharamvir ✉ & M. S. Shashidhara

Conference paper │ First Online: 25 May 2022

151 Accesses

Part of the Algorithms for Intelligent Systems book series (AIS)

Abstract

Ground Penetration Radar (GPR) detects buried detonatory objects. The data collection may be view with different source of information to make use of Ground Penetration Radar System. In the normal data gives hyperbolic effects, which make the analysis and detection of targets difficult. So a focusing algorithm, Kirchoff Migration has been used for a synthetically generated GPR data pattern, The task control behavior of assigned data performs with Stepped Frequency Continuous Wave Radar (SFCW). The data is migrated, simulated in Mat Lab. Architecture has been proposed for the FPGA Implementation of the same.

Keywords

GPR   **Kirchoff migration**   **Interpolation**   **FPGA implementation**

This is a preview of subscription content, access via your institution.

Chapter EUR 29.95	⌄ eBook EUR 181.89
Price includes VAT (India)	
• Available as PDF	
• Read on any device	
• Instant download	
• Own it forever	
Buy Chapter	
⌄ Softcover Book EUR 219.99	⌄ Hardcover Book EUR 219.99

Transformational Perceptive of Data Recorder for UAV Flight Automation Control System using Image Processing Techniques

Dharamvir[1] and K S Hemanth[2]

dhiruniit@gmail.com
hemanth.ks@reva.edu.in
[1] Research Scholar, School of CSA, REVA University, Bengaluru, India -560024

[2] Associate Professor, School of CSA, REVA University, Bengaluru, India -560024

Buy this article in print

Journal RSS

Sign up for new issue notifications

Create citation alert

Abstract

Flight Data Recorders (FDRs) are readily available in the market, to be used on the Unmanned Aerial Vehicles (UAV) for onboard data recording. They have their own inbuilt sensors and characteristics and can be easily placed within the cockpit of the UAV. However, they have umpteen drawbacks. They do not have sufficient sampling rate for rapid and accurate flight automation, are either very bulky, or do not incorporate some of the necessary sensors required for post-flight analysis and are very costly. Hence, the need arises where the FDR needs to be designed to suit the requirements. We go about designing one such FDR. Our FDR incorporates a MicroStrain's 3DM-GX1 Gyro Enhanced Orientation Sensor, a Texas Instrument's GPS module and four servo motors

PDF

Help

A Comprehensive Study of Ceramic Matrix Composites for Space Applications

S. Dhanasekar (iD) ,[1] Arul Thayammal Ganesan,[2] Taneti Lilly Rani,[3] Venkata Kamesh Vinjamuri,[4] Medikondu Nageswara Rao,[5] E. Shankar,[6] Dharamvir,[7] P. Suresh Kumar,[8] and **Wondalem Misganaw Golie** ✉ (iD) [9]

Show more

Abstract

Ceramic matrix composites (CMCs) have grown in popularity as a material for a range of high as well as protection components, increasing the need to better understand the impacts of multiple machining methods. It is primarily composed of ceramic fibers embedded in the matrix. Ceramic materials, especially carbon fibers and carbon were used to create the matrix and fibers. These ceramics include a huge variety of non-metallic inorganic materials that are regularly utilized under high temperatures. The aircraft industry became revolutionized by this unique combination of materials, which made parts better resistant under extreme conditions as well as lighter than the earlier technology. The development, properties, and production of ceramic matrix composites, as well as space applications, are discussed in this article. Ceramic materials have an interesting set of properties, including great strength and stiffness under extremely high temperatures, chemical inertness, low density, etc. In CMC, ceramics are used in the matrix as well as reinforcement. The matrix material keeps things running smoothly while the reinforcement delivers unique special properties. Ceramic matrix composites are developed for applications that required high thermal and mechanical characteristics, which include nuclear power

engine design. The benefits of continuous fiber- reinforced CMC with high-temperature engine designs have long been recognized as a better measure of a country's ability to design and produce spacecraft, modern aircraft, and weapons. Ceramic matrix composites materials are used in various aircraft type engines, aircraft brake disks, high-temperature gas turbines components, slide bearing components, hot gas duct, flame holders and components for burners are made by using oxide CMCs.

1. Introduction

Composite material structures have attracted interest for various industrial applications based on their ability to improve their strength-to-weight proportion when analyzed with non-reinforced materials [1]. Digitalization will encompass the majority of engineering fields, with a bigger impact over wide-area communication networks involving fast data transmission [2–4]. A significant amount of research has been expended and recounted over various reviews in the field of machining composites [5–7]. Due to their unique form, CMCs have been considered challenging to machine processes. Due to the latest increase in demand for the long fiber-reinforced CMC, materials have been employed in high-temperature structural industries including nuclear power, automobiles, and aircraft [8, 9]. The engineered connections of fibers and the matrix have been devised to provide a regulated bridging technique for cracks in ceramic composites reinforced using long fibers, as a result, fracture toughness improves, and therefore viable mechanical properties are used in various structural applications like aero-engines and nuclear reactors [10]. To accomplish the objectives of efficiency, thrust-to-weight ratio, and fuel economy, new aviation engines need advanced materials. Ceramic matrix composite is a novel emerging technology for improving the hardness and durability of ceramics at extremely high-temperature applications, like engine hot area elements. By means of production of stiffer, harder, and smaller lighter materials able to withstand increased operating temperatures, CMC materials suggest the possibility of even greater advances in productivity and reduced weight. Composites also provide the ability to create novel materials having unique properties which are not found in traditional materials [11]. Sol-gel synthesized metal nanocomposite and hybrid ceramic substances, as well as quasi-crystalline materials with separated stages between 1–10 nm with variable design and structure, were studied. This idea for structured ceramic nanocomposites has been adopted as microstructural tailoring in structural ceramic composites using a nanocomposite method. This research was primarily supported by findings from the Si_3N_4/SiC as well as Al_2O_3/SiC systems [12]. These CMC composites have already been used to develop advanced airframe designs due to their high strength/weight as well as stiffness/weight characteristics. CMCs have been frequently utilized in complex parts of aero-engine vanes, and traditional machining is perhaps the most common method for reshaping the materials to meet the geometric and assembling needs. The developments of ceramic matrix composites are introduced in Section II of this article. The properties of ceramic matrix composites have been discussed in Section III. The manufacturing of ceramic matrix composites has been described in Section IV. The ceramic matrix composite, which is used in space applications are illustrated in Section 5. In the end, Section 6 concludes with remarks on the ceramic matrix composites.
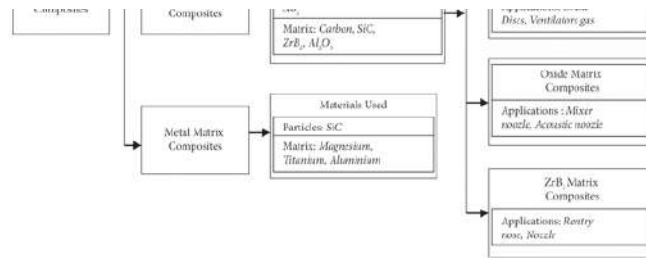
2. Development of Ceramic Matrix Composites

To overcome the issues and demanding requirements for materials application in the 21st decade in various vital industries ranging between architecture, transportation, and energy, there will be an

filaments as well as matrix materials [14]. MMCs are naturally adaptable and also provide superior flexibility, toughness, strength, and dimensional stability, particularly for aviation components seem to be the most prominent usage [15]. Ceramic matrix composites are emerged as potential choices because of their excellent mechanical and physical properties. CMCs were heterogeneous materials with their second phase embedded throughout the ceramic matrix. CMCs have features, including hardness, self-healing, and functioning because of the nature of a reinforcement material [16].

Ceramic matrix composites were created to address monolithic ceramics inherent fragility as well as loss of mechanical durability, despite their high strength and hardness [17]. Developing probabilistic, non-destructive analysis methodologies depending on the failure of micromechanics, trying to devise processing methods to remove critical defects, as well as continuing to develop hardened ceramics with damage tolerance are three approaches that ensure the ceramics reliability. Continuous or long and discontinuous or short-fibers composites are used to reinforce ceramic matrix composites. The discontinuous or short-fiber composites consist of non-oxide alumina as well as oxide alumina materials using traditional ceramic processes. zirconium oxides (ZrO_2), silicon carbide (SiC), titanium boride (TiB_2), aluminum nitride (AlN) are used to reinforce the ceramic matrix. Silicon carbide fibers have been utilized extensively to reinforce the bulk of CMCs due to their high elastic modulus and strength. The addition of whiskers with the short-fiber-ceramic matrix composite improves its hardness and crack resistance. The continuous or long fibers have higher durability that maintains a load even when the ceramic matrix cracks and reduces the fracture development. The short fibers and whiskers are used to improve crack resistance. The continuous monofilament fibers in the dispersed phase are manufactured using chemical vapor deposition (CVD) with silicon carbide in the substrate which is composed of tungsten as well as carbon fibers, delivering the most effective strengthening. Monofilament fibers offer a better interface connection, which makes the matrix materials more durable [18].

Ceramic matrix composites are composite materials that have ceramics in matrix and reinforcement. The matrix material binds everything together while the reinforcement delivers its unique characteristics. Figure 1 shows the various types of composite matrixes and materials used in each composite. CMCs were created for applications that required high mechanical and thermal performance which include aircraft, nuclear power plants, land transportation, chemical plants, and space structures. In ceramic matrix composites, reinforcing materials, such as alumina, alumina-silica, carbon, and silicon carbide are used. Refractory fibers include nanofibers, long fibers, short fibers, particles, and whiskers. These fibers have a polycrystalline structure similar to traditional ceramics. CMCs are less susceptible to these crack defects in the materials, but once a fracture starts to grow, failure can be devastating [19]. The matrix materials with ultra-high-temperature, non-oxide ceramics are added for special applications. Advanced ceramics have been widely used in the production of ceramic matrix composites to overcome a major disadvantage in traditional ceramics, which is their brittleness. The commonly used non-oxide CMCs are carbon/silicon carbide (C/SiC), carbon/carbon (C/C), as well as silicon carbide (SiC). These names are usually derived from the structure of the fiber and matrix material types. For nearly 50 years, researchers have been working on ceramic materials for use in the hot portion of the gas turbine engines. Ceramic gas turbine components have been designed, produced, and evaluated with rigs and engines including aviation, industrial, automotive as well as utility power applications. Ceramic matrix composites will be used as the preferred material in both present and prospective engine parts due to their substantially higher fracture toughness [20].

Figure 1

Types of composites materials.

3. Properties of Ceramic Matrix Composites

Advanced ceramics have a unique number of properties, including high tensile strength under high temperatures, superior corrosion, high hardness, erosion resistance, low density, strong elastic modulus, and reduced coefficients of friction, making them reasonable alternatives for a variety of structural applications as compared with pure metals [21]. Cutting tools, heat exchangers, wear components and coatings are just a few of the current applications of advanced ceramics. But, to use ceramics in new areas like engines and turbines, their reliability and brittleness must be improved. Ceramic matrix composites have the benefit of higher toughness, catastrophic failure resistance, good strength, low weight, low thermal expansion, and capacity which sustains high temperatures for oxidation resistance. Ceramic materials were more resistant to high temperatures as well as harsh environments than metals as well as other traditional engineering materials. Ceramics constitute inorganic non-metallic materials made up of non-metallic and metallic elements bound together by ionic and/or covalent bonds. Thermal shock resistance and toughness are limited in traditional ceramics. The usage of fiber reinforcement in ceramic matrix composites overcomes these problems.

Ceramic matrix composites have a number of common features which include (i) high tolerance to thermal shock and creep, (ii) resistance to high temperatures, (iii) excellent corrosion and wear resistance, (iv) intolerance to corrosive chemicals, (v) reinforcement improves fracture toughness, and (vi) at high temperatures, the strength of the material remains high [22]. Long fiber composites and dispersion composites and are the two types of ceramic composites most commonly used. Carbon–carbon fiber composites were extensively researched and are used in a variety of applications, including wing, front fuelage as well as brake components, particularly within the aircraft sectors. Furthermore, the C/C composites are oxidation-sensitive, and numerous coatings, impregnants, as well as inhibitors were tried to prevent carbon gasification. Ceramic fiber-ceramic matrix composites are likely to be appropriate materials in structural applications owing to reduced brittleness. SiC fibers can oxidize when exposed to high temperatures. Platelet composites, particle composites, and silicon carbide whiskers (Sic-w) are all examples of dispersion composites. Mechanical property improvements have been made to a large extent by means of ceramic matrix dispersion. In ceramic matrix composites, mullite-ZrO_2, hafnia (Hf02) and zirconia (Zr02) were employed as particles. Due to their durability, hardness, as well as creep resistance, silicon carbide whiskers improve mechanical characteristics significantly. Apart from applications in

The fundamental process underlying mechanical properties of CMCs has an embedded fibers bridge and it performs whenever the matrix would move along with fibers, emphasizing that the fibers, as well as the matrix, would have a weak bond. As with traditional ceramics, a strong bond would necessitate a high extension capability in the fiber across the crack, causing a brittle failure. The thermal and electrical properties of CMCs are determined by the composition of their constituents, which include pores, fibers, and matrices. Oxide CMCs have good electrical insulators, however, due to their high permeability, whose thermal insulation remains significantly superior to the oxide ceramics. Excluding the oxidation in temperatures exceeding 1000°C, there is a scarcity of corrosion data on CMCs. The components, mainly matrix, and fiber determine these characteristics. Generally, ceramic materials are corrosion resistant. Corrosion tests require a wide range of manufacturing procedures using mixtures, various sintering additives, porosities as well as glass phases. CMCs are substances that have a significant amount of chemical and a structural distinct component which is less than 5%, are scattered inside a continuous matrix and have unique ultimate properties. Its damage tolerance but also excellent mechanical qualities across a wide temperature range could also be emphasized [24]. The matrix in CMCs is typically a technical ceramic made by rather sophisticated methods using large raw materials having nano or microscale particle sizes. Ceramics have a low density, refractoriness, chemical resistance, and great hardness, and they generate hybrid chemical connections among covalent as well as ionic forms. Despite significant progress in these characteristics during the last two decades, monolithic ceramic materials have remained limited by their low tensile strength, mechanical shock, and thermal stress resistance [25].
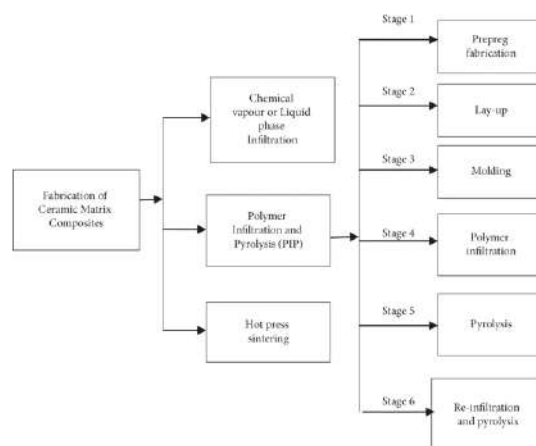
4. Production of Ceramic Matrix Composites

Due to their outstanding qualities, ceramic matrix composites employ as the finest material in diverse applications. As the first man-made substance, ceramics offer great strength and hardness, chemical stability, good thermal expansion, as well as good oxidation and corrosion resistance qualities [26]. CMCs have been the most suitable material for a variety of engineering purposes under severe and demanding environments, and they are widely employed in situations featuring thermal shocks and high temperatures. Due to their brittle performance, high hardness, heterogeneous structure made up of fibers, porosities, and matrix, as well as their orthotropic mechanical and thermal behavioral patterns, CMCs are challenging to manufacture. Ceramic fibers with a thickness of 3–20 micrometers are used to create ceramic matrix composites. A small diameter of the fiber which is normally made as yarns permits it to be flexible when more textile preparation is required. CMC form was created by continuous fibers that have been textile structured via braiding, weaving, knitting, cutting yarns, and making them as small fiber bundles. According to several researchers, ceramic matrix composites have been manufactured in a number of ways based on the need and use of the materials [27]. A lot of factors influence the processing method used to manufacture ceramic matrix composites, including the needed composite size and shape, working temperature, CMC application, reinforcement type, and so on.

The most prevalent traditional ways for machining ceramics, as well as composites, are grinding and drilling. Traditional methods of machining ceramics and their composites are complex but also time-consuming. The three basic techniques for manufacturing CMCs are (i) liquid phase infiltration, (ii) polymer infiltration and pyrolysis (PIP), and (iii) hot press sintering approaches. Step one involves arranging and fixing the fibers, also known as rovings, employing methods identical to the fiber-reinforced plastic materials used, which include knotting, fabric lay-up, braiding as well as filament winding. This procedure produces fiber-preform, which is also known as a preform. The most popular technique is polymer infiltration and pyrolysis. The ceramic matrix in PIP has been created by infiltrating

typically appears without oxygen. Pyrolysis is the process of decomposing a substance into the ceramic under nitrogen, argon as well as ammonia environment, depending upon the nature of the ceramic matrix utilized. Pyrolysis produces a variety of compounds, which are the most volatile. H_2, CO, CO_2, CH_2 as well as H_2O are examples of these products. A low-viscosity polymer has been infiltrated into fabric materials like tape and woven, which is formed by ceramic reinforcing material under the polymer infiltration and pyrolysis process method. Afterward, the infiltrated reinforcing material is heated in a sterile, oxygen-free environment.

The polymer thermally breaks down into a ceramic when heated. A polymer-derived ceramic has been the resulting CMC. The above process is named the liquid polymer infiltration, or LPI. An infusing polymer in PIP is the preceramic polymers, popularly called polymer precursors. Pyrolysis can change preceramic polymers toward ceramics, which makes them unique. The spark plasma and hot pressing are capable of producing small geometrical shapes. Carbon and silicon are commonly found in these ceramics, although other components, including boron, nitrogen, aluminum, titanium as well as oxygen have also been present. Carbon or silicon carbide is the most common matrix material utilized in the PIP process. This process has a minimum of six steps: The first stage in the PIP process is Prepreg fabrication, in which the reinforcing ceramic fibers have been coated using resin. Either the resin is dried but rather partly hardened. Typically, a substance is added to the fibers that reduce the interfacial interaction between the matrix and fibers, with the aim of growing fiber pullout as well as crack strength. The fibers can be non-continuous, continuous as well as woven together to create a fabric. Lay-up relates to layering the prepreg substance in stage 2. Multiple layers are necessary and the characteristics of the final CMC are controlled by the order wherein layers with different orientations were placed. The prepreg lay-up becomes molded into the appropriate shape in the third stage, and this shape will resemble the final component. The pores inside the molded prepreg have been filled with low-viscosity preceramic polymer during the fourth stage of polymer infiltration. The polymer is driven into the pores by capillary forces, which can generally be achieved with normal pressure. To accomplish good pyrolytic decomposition, temperatures ranging from 1,472°F and 2,372°F will be needed in the fifth stage. The atmosphere is N_2 or NH_3 when nitride is used as matrix material is a nitride else Ar is utilized. Stages 4 and 5 have been repeated around 4 and 10 times in stage 6, based upon porosity for ceramic matrix following initial pyrolysis. Figure 2 illustrates the manufacturing methods for ceramic matrix composites.

The PIP method is most commonly employed in carbon matrices and silicon carbide. Infiltration methods are often used to make reinforced ceramic matrix composites using continuous fiber, during which the ceramic matrix has been created using fluid infiltrating the fiber structure [28]. As a result, whether using nonconventional or conventional machining methods, additional processing is necessary. Chemical methods employed among many researchers for the production of ceramic and their composites create near-net-shape using a short processing period as well as low temperature, however, a composite produced through a reaction bonding process is much more porous, resulting in mechanical characteristics degradation. In the drying process of the sol-gel technique, the creation of cracks for the matrix phase has been a key issue. Low production and significant shrinkage volume occur in sol-gel as well as polymer processing, which necessitates many processes to accomplish densification.

5. Applications for Ceramic Matrix Composites

The focus on high wireless communication has raised due to the impact of the growth of wideband wireless transmission networks [29, 30]. To achieve the performance objectives, modern aircraft propulsion systems involving hypersonic, subsonic, and supersonic flight operations generally need intensive materials. Beyond the large temperature range, advanced polymer, ceramic, as well as metal matrix composites, provides great promise in aviation engines and airplane spacecraft components. Ceramic composites are highly desirable toward aerospace applications due to its high-temperature utilization. CMCS was helpful for aircraft where mission success depends on lightweight as well as environmental durability. These materials have the ability to propel spacecraft more than 10 times faster using the same amount of fuel, considerably boosting travel distance and reducing vehicle size. While several lightweight ceramic materials are suitable for space applications, the silicon used in the ceramics like silicon nitride (Si_3N_4) as well as silicon carbide has the highest possibility of attaining the high-temperature structural parts. Their rigidity, thermal stability, high-temperature hardness, resistance toward thermal shock as well as thermal shock and oxidative conditions will contribute to these factors. Moreover, engine demonstration projects like the Advanced Gas Turbine project are evaluating structural capabilities for these materials through the monolithic structures. The Monolithic ceramics are used in the structural components for non-terrestrial engines, due to their low-cost structural behavior and predictability. Such materials are extremely sensitive to minor cracks and faults mostly in microstructure due to their poor toughness.

5.1. Sic-Sic and C-Sic Composites for Aeronautical Applications

In the aerospace industry, CMCs are used in a variety of real-world as well as futuristic scenarios. The majority are designed for high-temperature oxidation situations, like those found in aviation engines as well as re-entry spacecraft. Due to carbon oxidation sensitivity, ceramic matrices were created to substitute carbon to acquire substances suitable for long resistance at high thermal fluxes and also mechanical loads in oxidation conditions. These aircraft applications are best served by C–SiC, SiC–SiC composite materials. In-room temperature, the above materials have good toughness as well as a non-brittle characteristic which includes a failure strain of close to 0.5%. Several aero-engine components, thermal architectures, hot gas valve sections as well as Thermal protection systems (TPS) for the re-entry vehicles are made using ceramic-ceramic and carbon-ceramic materials. To manufacture reinforced SiC composites having outstanding high-temperature characteristics, sophisticated procedures such as chemical vapor infiltration has been needed currently. Furthermore, it is a time-consuming process and it

Aircraft brakes have become an important part of secure landings as well as takeoffs and they will function as frictional parts to create sufficient stopping force in various operational environmental circumstances, when the heat sinks, it will collect the aircraft's kinetic energy and distribute force toward the tyres. The organic compounds which include non-asbestos organic brake materials and asbestos fiber-reinforced resin matrix composites have given way to powder metallurgy materials like copper as well as iron-based metallic and carbon/carbon composites brakes in the development of airplane brakes. The fast advancement in aviation engineering and innovation has resulted in aircraft that have significantly grown in size as well as weight. As a result, the tendency in brake material research has always focused on larger energy absorptions, and brake temperatures have been higher than traditional braking materials which are made up of organic and steel. To handle the high brake energy, the traditional brake weight has been raised in addition to improving the brake's thermal capacity and lowering the temperature of the brakes. In order to further expand and reduce costs, China's North-western Polytechnical University (NPU) has been working on short-fiber reinforcement SiC brake materials.

As in the scientific community, C/SiC braking materials have grabbed the public's curiosity. The C/SiC brake disk was first introduced in Porsche 911 GT2 in 2001 [31]. Elevator and crane emergency brakes have been made from brake materials of C/SiC. The aircraft brake made of C/SiC was used for limited batches in a variety of military aircraft. Pyrolysis technology (PIP), liquid silicon infiltration technology (LSI), and polymer infiltration are three common C/SiC brake techniques. The aircraft brake materials should have good frictional properties, mechanical characteristics, and thermal qualities and also have structural and frictional components and heat sinks. The Sandwich structure-based C/SiC braking materials were designed to improve phase distribution in the materials. The primary wear mechanisms used in 3D needled C/SiC brake materials are grain abrasion, fatigue wear, as well as adhesive wear which is created in chemical vapor infiltration (CVI) along with LSI. Each of these wears mechanisms occurred at the same time and collaborates with one another. Two exterior friction-reducing functional layers and an inner mechanical functioning layer have been made by Sandwich construction materials. Despite the fact that C/SiC brake materials were used in a variety of airplanes and high-end automobiles, the connection underlying properties and structure of C/SiC brakes remains unclear. The impact on the structure of C/SiC brake materials for mechanical characteristics, tri-biological properties, and thermal physical qualities requires more research.

5.3. Monolithic Ceramics for Ultra-High Temperature in Aerospace Applications

In the 21st century, advanced ceramics have been chosen as the primary choice for a variety of applications, which includes telecommunications, modern electronics, photonics, multifunctional, sensor, thermal engine, military, turbine, defense, and aviation applications. With the growing interest in reusable atmospheric re-entry vehicles and creating hypersonic aerospace vehicles, monolith ceramics materials have seen a considerable surge in popularity in recent years. Ceramics will concentrate on materials that are well-known and potentially relevant to ultra-high-temperature (UHT) applications, i.e., up to 1200°C. The objective of this research is to investigate the possible aerospace and defense applications, wherein UHT situations are common [32]. The majority of high-performance ceramics undergoing investigations are made of silicon carbide, silicon nitride, zirconia, and dispersion hardened alumina as well as ceramic matrix composites. Coatings made of Cr_2O_3 and zirconia is reported to be efficient in a variety of gas turbine as well as diesel applications. SiC, mullite fibers, and Al_2O_3 are being used as reinforcement for ceramic composites. TiB_2 and ZrB_2 are the most significant components in monolithic ceramics. These

High stiffness, flexibility, chemical stability, thermal conductivity as well as high melting point are significant and useful features of Ti-B. Orthorhombic Ti_3B_4, hexagonal TiB_2, and orthorhombic Ti-B are the three major compounds used in titanium boride ceramics. Ti-B composites are promising ceramic materials due to the strong Ti-B covalent bonding. In titanium metal matrix composites, Ti-B has been frequently employed for reinforcement.

5.3.2. Zirconium Boride Ceramics (ZrB_2)

ZrB_2 is employed as a diffusion barrier for the semiconductors, the container of molten metal, as well as a burnable absorber for nuclear reactor cores, among other things. The thermal protective layer is commonly used in aircraft systems that involve hypersonic flight as well as atmospheric re-entry. There are three basic synthesis routes in ZrB_2, namely (i) chemical routes, (ii) reduction procedures, and (iii) reactive processes. As a source, zirconia has been used, while in the reducing agent, carbon or boron was used.

5.4. Ceramic Matrix Composites Taking Flight at GE Aviation

General Electric (GE) has been working on CMC for the past 30 years, and the company has spent about $1.5 billion on technology during the last decade. The US Department of Energy, NASA, and Department of Defence actively contributed to the early innovation and expansion. GE Aviation had made considerable funds for the development of CMC products and methods, and also for manufacturing enhancements and supply chain management. As a result of this investment, CMC high-pressure turbine shrouds are now available for the LEAP engine [33]. Commercial LEAP engines for Boeing, Airbus as well as COMAC airplanes have already logged more than four million flight hours using CMC shrouds.

The GE9X, the world's largest aviation engine, includes five CMC components across the hot section of the engine. One outer liner, one combustor inner liner, HPT Stage 1 shrouds, HPT Stage 2 nozzles, and nozzles are five components for GE9X aviation. CMCs are being implemented into advanced military engine architectures which provide higher thrust and lower specific fuel consumption for future aircraft. GE developed the prepreg/melt infiltration (MI) method of producing SiC CMC turbine engine components with tiny, complex features and distinguishing characteristics. Within the next 10 years, GE anticipates a 10-fold increase in CMC component production. The capacity to manufacture the fiber to final CMC engine components for a broad range of modular components will be enabled by GE Aviation's quick and flexible vertical distribution chain. Various polymer and metal matrix composites also used in other applications [34–38].

6. Conclusion

This article discusses the development, manufacture, and characteristics of ceramic matrix composites, as well as potential space applications. Ceramic matrix composite preparation and its properties using existing reinforcements is a developing technology that finds new important applications. A variety of aircraft type engines, aircraft brake disks, high-temperature gas turbine components, and sliding bearing components are made by ceramic matrix composite materials. Ceramic matrices have greater melting points, hardeners, lower coefficients of thermal expansion, and superior chemical inertness as compared with polymer and metal matrices. Ceramic matrices are available in a wide variety of shapes and sizes.

have better frictional characteristics, including a lower wear rate, higher static friction coefficient, higher braking efficiency, and less sensitivity to wet circumstances. C/SiC brake materials are novel, cost-effective brake materials that are used in airplanes, high-speed trains, heavy trucks, elevator and crane emergency brakes, and other applications. The usage of monolithic, as well as composite ceramic materials had gradually increased in India due to the development of aircraft, space systems, and missiles over the last two to three decades. Nevertheless, due to a shortage of high-quality powder production facilities in India and there is a significant gap in the technological development and manufacturing of these materials. HPT nozzles, combustor liners, and shrouds are the component used in the GE9x engine due to GE progressive extension of CMC production. GE aviation uses big data concepts to connect data points and use the CMC facilities for the production process. Ceramic matrix composites with ultra-high temperatures were the CMCs newer branch that is employed for hypersonic vehicle components and rockets.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

1. O. Gavalda Diaza, G. Garcia Luna, Z. Liao, and D. Axinte, "The new challenges of machining Ceramic Matrix Composites (CMCs): review of surface integrity," *International Journal of Machine Tools and Manufacture*, vol. 139, pp. 24–36, 2019.
   View at: Publisher Site | Google Scholar

2. S. Dhanasekar, P. Malin Bruntha, K. Bruntha, C. A. Madhuvappan, and K. M. Sagayam, "An improved area efficient 16-QAM transceiver design using vedic multiplier for wireless applications," *International Journal of Recent Technology and Engineering*, vol. 8, no. 3, pp. 4419–4425, 2019.
   View at: Publisher Site | Google Scholar

3. S. Dhanasekar and J. Ramesh, "VLSI implementation of variable bit rate OFDM transceiver system with multi-radix FFT/IFFT processor for wireless applications," *Journal of Electrical Engineering*, vol. 18, pp. 1582–4594, 2018, ISSN.
   View at: Google Scholar

4. S. DhanasekarP. M. BrunthaT. M. Neebha, N. Bruntha, N. Neebha, C. Arunkumar, N. Senathipathi, and C. Priya, ""An area effective OFDM transceiver system with multi-radix

composites for high-temperature stealth technology based on multi-scale collaborative design," *Journal of Materials Research and Technology*, vol. 18, no. 2022, pp. 2770–2783.
View at: Publisher Site | Google Scholar

6. X. Lv, F. Ye, L. Cheng, and L. Zhang, "Novel processing strategy and challenges on whisker-reinforced ceramic matrix composites," *Composites Part A: Applied Science and Manufacturing*, vol. 158, 2022.
View at: Publisher Site | Google Scholar

7. X. Wang, X. Gao, Z. Zhang, L. Cheng, H. Ma, and W. Yang, "Advances in modifications and high-temperature applications of silicon carbide ceramic matrix composites in aerospace: a focused review," *Journal of the European Ceramic Society*, vol. 41, no. 9, pp. 4671–4688, 2021.
View at: Publisher Site | Google Scholar

8. F. Zivic, N. Busarac, S. Milenkovic, and N. Grujović, "General overview and applications of ceramic matrix composites (CMCs)," *Encyclopedia of Materials: Composites*, vol. 2, pp. 3–19, 2021.
View at: Publisher Site | Google Scholar

9. S. Liza, "Recent developments in carbon nanotubes-reinforced ceramic matrix composites," *A Review on Dispersion and Densification Techniques*, vol. 11, no. No.5, 2021.
View at: Publisher Site | Google Scholar

10. A. M. Nagaraja, S. Gururaja, and A. Udayakumar, "Tensile behavior of ceramic matrix minicomposites with engineered interphases fabricated by chemical vapor infiltration," *Journal of the European Ceramic Society*, vol. 42, no. 6, pp. 2659–2671, 2022.
View at: Publisher Site | Google Scholar

11. D. L. McDanels, T. T. Serafini, and J. A. DiCarlo, "Polymer, metal, and ceramic matrix composites for advanced aircraft engine applications," *Journal of Materials for Energy Systems*, vol. 8, no. 1, pp. 80–91, 1986.
View at: Publisher Site | Google Scholar

12. S. S. Subhranshu and B. Smrutisikha, "Nanotube reinforced ceramic matrix composites- A review," *Journal of Minerals and Materials Characterization and Engineering*, vol. 7, no. 4, pp. 355–370, 2008.
View at: Google Scholar

13. M. Ravichandran, A. Naveen Sait, and V. Anandakrishnan, "Synthesis and forming characteristics of Al-TiO2 powder metallurgy composites during cold upsetting under plane stress state conditions," *Journal of Sandwich Structures and Materials*, vol. 17, no. 3, pp. 278–294, 2015.
View at: Publisher Site | Google Scholar

composites utilizing additive manufacturing fabrication," *Journal of Elastomers and Plastics*, vol. 51, no. 7-8, pp. 698–711, 2019.
View at: Publisher Site | Google Scholar

16. I. M. Low, "Advances in ceramic matrix composites," *Woodhead Publishing series in composites science and engineering*, Woodhead Publishing, Cambridge, UK, 2018.
View at: Google Scholar

17. J. Cho, A. R. Boccaccini, S. Shaffer, and P. Shaffer, "Ceramic matrix composites containing carbon nanotubes," *Journal of Materials Science*, vol. 44, no. 8, pp. 1934–1951, 2009.
View at: Publisher Site | Google Scholar

18. S. D. Oguntuyi, O. T. Johnson, and M. B. Shongwe, "Spark plasma sintering of ceramic matrix composite of TiC: microstructure, densification, and mechanical properties: a review," *The International Journal of Advanced Manufacturing Technology*, vol. 116, no. 1-2, pp. 69–82, 2021.
View at: Publisher Site | Google Scholar

19. A. Tontisakis, W. Simpson, J. Lincoln, R. Dhawan, and M. Opliger, "Evaluation of surface finish technology in the manufacture of Oxide-Oxide ceramic matrix composites," *Ceramics International*, vol. 47, no. 4, pp. 5347–5363, 2021.
View at: Publisher Site | Google Scholar

20. J. A. DiCarlo and M. van Roode, "Ceramic composite development for gas turbine engine hot section components," *Turbo Expo:Power for land sea and air,ASME conference proceedings*, vol. GT2006-90151, pp. 221–231, 2006.
View at: Publisher Site | Google Scholar

21. P. Descamps, J. Tirlocq, and F. Cambier, "Ceramic matrix composites: properties and applications," *3rd European Symposium on Engineering Ceramics*, Springer, Dordrecht, Netherlands, pp. 109–125, 1991.
View at: Publisher Site | Google Scholar

22. J. Binner, M. Porter, B. Baker et al., "Selection, processing, properties and applications of ultra-high temperature ceramic matrix composites, UHTCMCs - a review," *International Materials Reviews*, vol. 65, no. 7, pp. 389–444, 2020.
View at: Publisher Site | Google Scholar

23. S. Rajesh, "Micromechanics approach for the overall elastic properties of ceramic matrix composites incorporating defect structures," *Journal of Engineering for Gas Turbines & Power*, vol. 144, no. 3, 2022.
View at: Publisher Site | Google Scholar

24. F. J. Lino Alves, A. M. Baptista, and A. T. Marques, "Metal and ceramic matrix composites in aerospace engineering," *Advanced Composite Materials for Aerospace Engineering*, pp. 59–99,

View at: Publisher Site | Google Scholar

26. S. K. B. Bhosale, R. S. Pawade, and P. K. Brahmankar, "Effect of process parameters on MRR, TWR and surface topography in ultrasonic machining of alumina-zirconia ceramic composite," *Ceramics International*, vol. 40, no. 8, pp. 12831–12836, 2014.
View at: Publisher Site | Google Scholar

27. M. Rayat, S. S. Gill, R. Sharma, and L. Sharma, "Fabrication and machining of ceramic composites - a review on current scenario," *Materials and Manufacturing Processes*, vol. 32, no. 13, pp. 1451–1474, 2017.
View at: Publisher Site | Google Scholar

28. T. Tawakoli and B. Azarhoushang, "Intermittent grinding of ceramic matrix composites (CMCs) utilizing a developed segmented wheel," *International Journal of Machine Tools and Manufacture*, vol. 51, no. 2, pp. 112–119, 2011.
View at: Publisher Site | Google Scholar

29. S. Dhanasekar and J. Ramesh, "FPGA implementation of variable bit rate 16 QAM transceiver system," *International Journal of Applied Engineering Research*, vol. 10, pp. 26479–26507, 2015.
View at: Google Scholar

30. S. Dhanasekar, R. S. Suriavel Rao, and H. Victor Du John, "A Fast and Compact multiplier for Digital Signal Processors in sensor driven smart vehicles," *International Journal of Mechanical Engineering & Technology*, vol. 9, no. 10, pp. 157–167, October 2018.
View at: Google Scholar

31. E. S. AmitPatel, T. Takagi, and N. Shichijo, "Bending fatigue behavior in an advanced SiC/SiC ceramic matrix composite component at elevated temperature in air," *Composites Part C: Open Access*, vol. 5, 2021.
View at: Google Scholar

32. K. A. Kane, B. A. Pint, D. Mitchell, and J. A. Haynes, "Oxidation of ultrahigh temperature ceramics: kinetics, mechanisms, and applications," *Journal of the European Ceramic Society*, vol. 41, no. 13, pp. 6130–6150, 2021.
View at: Publisher Site | Google Scholar

33. J. Steibel, "Ceramic matrix composites taking flight at GE Aviation," *American Ceramic Society Bulletin*, vol. 98, no. 3, 2019.
View at: Google Scholar

34. P. Yogesh, S. Krishna Shinde, G. Puthilibai, and M. Sudhakar, "Mechanical strengthening of lightweight Aluminium alloys through friction stir process," *Advances in Materials Science and Engineering*, vol. 2022, Article ID 8907250, 10 pages, 2022.
View at: Publisher Site | Google Scholar

36. S. S. Kumar, V. Tripathi, R. Sharma, G. Puthilibai, M. Sudhakar, and K. Negash, "Study on developments in protection coating techniques for steel," *Advances in Materials Science and Engineering*, Article ID 2843043, pp. 2022–10, 2022.
     View at: Publisher Site | Google Scholar

37. V. V. Raman, P. S. Kumar, P. Sunagar et al., "Investigation on mechanical properties of bamboo and coconut fiber with Epoxy hybrid polymer composite," *Advances in Polymer Technology*, vol. 2022, Article ID 9133411, 5 pages, 2022.
     View at: Publisher Site | Google Scholar

38. S. M. Beyan, T. A. Amibo, S. V. Prabhu, and A. G. Ayalew, "Production of nanocellulose crystal derived from enset fiber using acid hydrolysis coupled with ultrasonication, isolation, statistical modeling, optimization, and characterizations," *Journal of Nanomaterials*, vol. 2021, Article ID 7492532, 12 pages, 2021.
     View at: Publisher Site | Google Scholar

Copyright

More related articles

No related content is available yet for this article.

Download other formats

Order printed copies

Hindawi

Advances in Materials Science and Engineering

Follow us:

About Us

Contact us

Partnerships

Blog

Journals

Article Processing Charges

Print editions

Authors

Editors

Reviewers

Partnerships

Hindawi XML Corpus

Open Archives Initiative

Fraud prevention

Browse ⌄   My Settings ⌄   Help ⌄   Institutional Sign In

Institutional Sign In

All   ⌄

🔍
ADVANCED SEARCH

A Face Recognition Method In Machine Learning (ML) For Enhancing Security In Smart Home

Publisher: IEEE   Cite This   📄 PDF

Marwan Alshar'e ; Mohammad Rustom Al Nasar ; Rohit Kumar ; Manish Sharma   ; Dharamvir ; Vikas Tripathi   All Authors •••

1
Cites in
Paper

125
Full
Text Views

® 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Objective

III. Methodology

IV. Machine Learning (ML)

V. Machine Learning with Recommendation Strategy and Utility

Show Full Outline ⌄

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: The study explores with Machine learning (ML), which is a type of neural network (AI) that empowers software

▸ **Metadata**
Abstract:
The study explores with Machine learning (ML), which is a type of neural network (AI) that empowers software programmers to start increasing prediction without being done with full to make this happen Exterior door security is of paramount importance and has become the cornerstone for the best and fastest security or sufficient to choose a feeling of protection to property owners, and together with technological innovations, especially in the Communication area, which tends to make emerging innovations in locking doors or windows have picked up a lot, including such locking doors and windows with faces and the others. Face - recognition technologies have also been developed and used for residential door locking mechanisms, and they are a basic and easy-to-use technology that detects the features of homeowners quite well. The advancement of facial recognition has resulted in one of the computer vision algorithms that is simple to build and has a high accuracy in recognising faces, and it has been widely utilised. When consumers review or exposure to new goods, does this have an instant influence on your suggestion system or does it take time, How do suggestions evolve as consumers interact more with the platform, many different of each sort of recommendation system in order to have a more detailed of their capabilities.

Published in: 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE)

Date of Conference: 28-29 April 2022

Date Added to IEEE *Xplore***:** 18 July 2022

▸ **ISBN Information:**

INSPEC Accession Number: 21884745

DOI: 10.1109/ICACITE53722.2022.9823833

Publisher: IEEE

Conference Location: Greater Noida, India

Contents

I. Introduction

Among other things, in object classification systems In this survey, data is collected using the CNN Mobilenet biometric technology, which is installed in a waiting area locking mechanism, by collecting 742 biometric information on the face of the landlord using a system that is used to prepare algorithms, and the results are quite precise, with the correctness being approximately 97 percent, and that is quite high when compared to every other studies. In conclude, the CNN Alexnet technique can conduct highly good face recognition software and can be installed on an IoT device, notably the Raspberry Pi[1].

Authors ⌄

Figures ⌄

References ⌄

Keywords ⌄

Metrics ⌄

References

References is not available for this document.

More Like This

Smart Home Security System Using Face Recognition Based on IoT- CNN

2023 International Conference on Information Technology Research and Innovation (ICITRI)

Published: 2023

Application of Computer Vision for Multi-Layered Security to ATM Machine using Deep Learning Concept

2022 International Conference on Applied Artificial Intelligence and Computing (ICAAIC)

Published: 2022

Show More

Loading [MathJax]/extensions/MathMenu.js

IEEE Personal Account

CHANGE USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS

VIEW PURCHASED DOCUMENTS

Profile Information

COMMUNICATIONS PREFERENCES

PROFESSION AND EDUCATION

TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800 678 4333

WORLDWIDE: +1 732 981 0060

CONTACT & SUPPORT

Follow

f in 🐦 ▶ ⊙

About IEEE *Xplore* | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | IEEE Ethics Reporting ⧉ | Sitemap | IEEE Privacy Policy

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

IEEE Account

» Change Username/Password

» Update Address

Purchase Details

» Payment Options

» Order History

» View Purchased Documents

Profile Information

» Communications Preferences

» Profession and Education

» Technical Interests

Need Help?

» **US & Canada:** +1 800 678 4333

» **Worldwide:** +1 732 981 0060

» Contact & Support

References

References is not available for this document.

Loading [MathJax]/extensions/MathMenu.js

Browse ∨   My Settings ∨   Help ∨

Institutional Sign In

Institutional Sign In

All   ▼

🔍
ADVANCED SEARCH

References

References is not available for this document.

Conferences   >   2022 2nd International Confer... ❓

Circumstantial Discussion on Security and Privacy Protection using Cloud Computing Technology

Publisher: IEEE   **Cite This**   📄 **PDF**

Melanie Lourens ; Ayesha Naureen   ; Shouvik Kumar Guha ; Shahanawaj Ahamad ; Dharamvir ; Vikas Tripathi   **All Authors** •••

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

📄
Downl

Document Sections

I. Introduction

II. Literature Review

III. Research Methodology

IV. Analysis and Interpretation

V. Discussion and Findings

Show Full Outline ▾

Authors

Figures

References

Keywords

Metrics

More Like This

Abstract: Cloud computing is becoming a demanding technology due to its flexibility, sensibility and remote accessibility. Apart from these applications of cloud computing, privacy & ... **View more**

▶ **Metadata**

Abstract:
Cloud computing is becoming a demanding technology due to its flexibility, sensibility and remote accessibility. Apart from these applications of cloud computing, privacy and security are two terms that pose a circumstantial discussion. Various authors have argued on this topic that cloud computing is more secure than other data sharing and storing methods. The conventional data storing system is a computer system or smartphone storage. The argument debate also states that cloud computing is vulnerable to enormous types of attacks which make it a more concerning technology. This current study has also tried to draw the circumstantial and controversial debate on the security and privacy system of cloud computing. Primary research has been conducted with 65 cloud computing experts to understand whether a cloud computing security technique is highly secure or not. An online survey has been conducted with them where they provided their opinions based on the security and privacy system of cloud computing. Findings showed that no particular technology is available which can provide maximum security. Although the respondents agreed that blockchain is a more secure cloud computing technology; however, the blockchain also has certain threats which need to be addressed. The study has found essential encryption systems that can be integrated to strengthen security; however, continuous improvement is required.

Published in: 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE)

Date of Conference: 28-29 April 2022

Date Added to IEEE *Xplore*: 18 July 2022

▶ **ISBN Information:**

INSPEC Accession Number: 21884617

DOI: 10.1109/ICACITE53722.2022.9823875

Publisher: IEEE

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites

Subscribe

References

References is not available for this document.

Subscribe   Cart   Create   Perso

Account   Sign

Institutional Sign In

Browse ⌄   My Settings ⌄   Help ⌄

Institutional Sign In

All   ⌄

🔍

ADVANCED SEARCH

A Comprehensive Analysis of Internet of Things (IOT) Sustained Integrity System Services with Data Management Based ON Machine Learning

Publisher: IEEE   Cite This   📄 PDF

Ch Sekhar ; Meenakshi   ; Saeed Mousa ; M. K. Sharma   ; V M Gobinath ; Dharamvir   **All Authors** •••

Ⓡ 🔗 © 📁 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

📄
Downl

Document Sections

I. Introduction

II. Literature Review

III. Research Methodology

IV. Discussion and Findings

V. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

Abstract: Internet of Things (IoT) and Machine Learning (ML) are recent trends in huge data management. Traditionally, data management was carried out by humans where big data coll... **View more**

Accept & Close

▾ Metadata

Abstract:

Internet of Things (IoT) and Machine Learning (ML) are recent trends in huge data management. Traditionally, data management was carried out by humans where big data collection, analysis and acquisition were solely done by humans. However, IoT and ML have enabled machines rather than humans to collect big data, analyse them and develop a new business model. It has shown huge success in industry 4.0; however, during the management of big data, large-scale companies encountered certain issues. These include, lack of effective training leads to less accuracy in data management, security issues during cloud computing and security issues in blockchain as well. Therefore, this study has explained the ways to improve big data management through ML and to enhance the security of blockchain. A primary survey was carried out with 50 respondents who provided their responses to certain questions related to big data management solutions and blockchain security. Findings showed that providing training to the workers and using guidelines/policies in blockchain can increase the data management accuracy and can improve the security in cloud computing, respectively.

Published in: 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE)

References

References is not available for this document.

🔍

ADVANCED SEARCH

Conferences > 2023 3rd International Confer... ❓

IoT Implementation in Various Applications: A Detailed Review of Cyber Security Issues and Challenges

Publisher: IEEE | Cite This | 📄 **PDF**

ECE, SPITM, DCRUST

Melanie Lourens ; Durgaprasad Gangodkar ; Mohit Tiwari ; Dharam Buddhi ; Dharamvir Dharamvir ; Shikha Kuchhal   **All Authors** •••

15
Full
Text Views

Ⓡ 🔗 © 🗂 🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Document Sections

Abstract

I. Introduction

II. Related Discussion

III. Some Security
Challenges In Network
Layer

IV. Layerwise Security
Techniques

V. Suggested Solution for Iot
Protection

Show Full Outline ⌄

Authors

Figures

References

Keywords

Metrics

More Like This

📄
Downl
PDF

Abstract: Data must be protected against cybercrime as the network revolution grows and becomes more complicated. With the purpose to intentionally damage sensitive and secret info... **View more**

▶ **Metadata**

Abstract:

Data must be protected against cybercrime as the network revolution grows and becomes more complicated. With the purpose to intentionally damage sensitive and secret information, cybercrimes cost the world economy billions of dollars. Because these crimes are perpetrated often, it is vital to increase cyberspace security to lessen and perhaps even prevent the effects of cybercrime. The internet of things (IoT) phenomena is now the subject of study, as privacy and safety are acknowledged as the primary concerns for Iot., particularly in light of the fact that they are being used in crucial contexts like healthcare systems. The current state of safety in the IoT sector is examined in this paper, along with security-related problems. We look at particular security needs and methods for resolving these problems. IoT safety is being recognised as a problem that blockchains may help with.

Melanie Lourens
Department of Human Resources Management, Durban University of Technology, Durban, South Africa

Durgaprasad Gangodkar
Department of Computer Science & Engineering, Graphic Era Deemed to be University, Dehradun, Uttarakhand, India

References

Institutional Sign In

All

ADVANCED SEARCH

IoT-Based Diagnosis and Recommendation System for Chronic Diseases Using Patient Health Records

Publisher: **IEEE**   Cite This   PDF

Dept.of Zoology, PRR&VS Govt College, AP

S. K. UmaMaheswaran ; Durgaprasad Gangodkar ; V. Samatha ; I. S. Chakrapani ; Dharamvir ; Dharam Buddhi   All Authors •••

21
Full
Text Views

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

II. Methodology

III. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

Downl
PDF

Abstract: The proliferation of IoT applications, notably in the sphere of health care, has led to discussion of patient health records utilising data gathered from IoT-connected de... **View more**

▼ Metadata

Abstract:

The proliferation of IoT applications, notably in the sphere of health care, has led to discussion of patient health records utilising data gathered from IoT-connected devices. Biological data from patients' medical records is mined for health analysis and diagnosis. Certain types of illness, known as chronic illnesses, are completely quiet yet devastating if left untreated. Recent years have seen an uptick in interest from academics in the utilization of patient health information data for the pre-emptive identification of chronic diseases. On the other side, healthcare and medical assistance have benefited enormously from the implementation of recommender systems that use machine learning techniques. Using an Internet of Things device, this research implemented a medical recommendation system to aid in the early diagnosis and management of chronic conditions. The current technique made use of the dataset of digitised patient health records that is housed in the Physio Net data repository. The current dataset contains patient health records that have been documented in accordance with the diseases that have been identified and the doctor's diagnosis. The recommended technique uses K-nearest neighbour classification to identify the kind of ailment before using collaborative filtering to select the optimal course of treatment for patients. The outcomes of using the suggested methodology show that this technique, which is based on using patient symptom similarity, produces better results than previous methods and has a high precision in diagnosing and forecasting chronic illnesses. After determining the kind of disease using the closest neighbour classification method, the collaborative filtering strategy is utilised to select the optimal course of therapy for patients. The outcomes of using the suggested methodology show that this technique, which is based on using patient symptom similarity, produces better results than previous methods and achieves better accuracy ...

(Show More)

FACE RECOGNITION USING TEXTUAL DATA CLASSIFICATION AND SOFT COMPUTING

Dharamvir[1], Dr. M S Shashidhara[2]

Abstract

The growth of user-generated material through virtual entertainment has made evaluation mining a difficult task. Text data are having data collection opinions on products, trends, and legislative issues as a microblogging platform. Feeling analysis is aprocess for dissecting the mentality, feelings, and assessments of numerous individuals about something, and it is frequently applied on tweets to deconstruct common opinion on news, tactics, social advances, and personalities. Assessment mining can be done without personally going through tweets by using Machine Learning models. Their findings could aid state-run administrations and enterprises in implementing plans, used to recognize feelings by categorizing tweets as happy or sad. The proposed casting a ballot classifier (LR-SGD) with TF-IDF generates the most ideal outcome with 79 percent precision and 81 percentF1 score, according to an inside and out relative presentation research. To confirm the stability of the suggested approach on two additional datasets, one parallel and the othermulti-class dataset, and to get positive results.

File TERMS Sentiment examination, message characterization, AI, assessment mining, feeling recognition, man-made reasoning.

[1]Research Scholar, VTU Research Center Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka India – 560068
[2]Professor & HOD, VTU Research Center Department of MCA, The Oxford College of Engineering ,Bengaluru, Karnataka India – 560068

Corresponding Author: [1]dhiruniit@gmail.com

Eur. Chem. Bull. 2022, 11 (12), 572 – 582

572

MARKET DATA ANALYSIS AND APPLICATION FOR ASSETS COMPUTATION AND RECOMMENDATION

Prof. Dharamvir[1], Gayathri S[2] , Harish M[3], Dilip Kumar[4], Daniya Kouser[5], G Bharath[6]

Abstract :

There are numerous housing options available in today's society, so anyone can choose an affordable home that is close to nature and equipped with all the necessary amenities. However, the rising cost of housing has made it difficult to construct new housing types economically for the public benefit. Rather than estimating a single number, it is sometimes more useful and enticing to forecast a range of property value declines. Due to the difficulty in categorizing products, it may be difficult to estimate pricing. Academics frequently use the House Price Index (HPI) query method to attempt accurate forecasts of future house price fluctuations by monitoring average price changes across multiple acquisitions or refinancing operations involving identical properties. The fact that real estate price trends are affected by multiple variables, such as population density and geographic location, adds to the complexity of this issue. In this study, we use four algorithms to estimate and propose housing prices: linear regression, a decision tree, a random forest regressor, and a gradient boost regressor. The purpose of these steps is to develop a dependable machine-learning model for use in predictive analytics and data classification. We have also contrasted the accuracy of each individual's predictions. The research utilizes the Bangalore dataset, which contains more than 13,000 instances. Due to the high quality of its results, Gradient Boosting is an efficient method for recommending secure real estate investments. The Gradient Boost Regressor, the most accurate of these options, was chosen as the primary model.

[1]Assistant Professor , Dept. of MCA, The Oxford College Of Engineering, Bengaluru, Karnataka, India- 560068
[2,3,4,5,6]MCA Final Year, Dept. of MCA, The Oxford College Of Engineering, Bengaluru, Karnataka, India- 560068

Email: [1]dhiruniit@gmail.com, [2]gayathrismca2023@gmail.com

Eur. Chem. Bull. 2022, 11 (12), 472 – 480

472

DESIGN DEVELOPMENT APPLICATIONS OF IOT BASED GAS MONITORING SYSTEM

Prof. Dharamvir[1], Chandra Mohan Mahto[2], Babita Kumari[3], Irashad Ahmedsab Khazi[4], Gomedhika K[5], Meet Bundela[6]

Abstract:

Air quality is important aspect of environmental monitoring that can be addressed using IoT systems. Air pollution, which can result from industrial activities, transportation, and natural events such as wildfires, can have detrimental effects on human health and the environment. Traditionally, gas monitoring systems rely on manual readings or periodic sampling, which can be time-consuming and prone to errors. With the advent of the Internet of Things, it is now possible to develop real-time gas monitoring systems that can detect and alert workers to hazardous gas levels. In this paper, we present the design and implementation of a gas monitoring system using Arduino Nano along with gas sensors i.e. MQ2, MQ4, MQ135 which is capable of providing accurate, real-time gas detection. We present the design and implementation of a gas monitoring system using IoT, which is capable of providing accurate, real-time gas detection. The results demonstrate the effectiveness of the IoT-based gas monitoring system in enhancing safety measures, reducing operational costs, and improving overall industrial efficiency. This research contributes to the advancement of IoT technologies in the domain of gas monitoring and sets a foundation for future research and development in this field.

Keywords: Air quality, Gas Detection, Real Time Gas Monitoring, Gas Sensors, Arduino Nano

[1]Asst. Professor, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

[2,3,4,5,6]MCA Final Year Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

Email: [1]dhiruniit@gmail.com

Enhancing Customer Experience and Trust in E-Commerce Applicationsthrough Artificial Intelligence and Blockchain Integration

Section A-Research paper

ENHANCING CUSTOMER EXPERIENCE AND TRUST IN E-COMMERCE APPLICATIONS THROUGH ARTIFICIAL INTELLIGENCE AND BLOCKCHAIN INTEGRATION

Prof. Dharamvir[1], Chandrashekhara[2], Chethan Kumar N[3], Basavaraj[4], Benny Verghees V[5], Harish S[6]

Abstract:

The rapid growth of e-commerce as revolutionized a way businesses of operate and customers shop. However, challenges of such as of security concerns, lacks of trust, and suboptimal customer experiences persist. This research paper proposes a novel approach to address these challenges by integrating artificial intelligence (AI) and blockchain technologies into e-commerce applications. By leveraging AI for personalized recommendations, fraud detection, and chatbot assistance, and utilizing blockchain for enhanced security, transparency, and trust, this research aims to improve customer experiences and foster trust in e-commerce transactions. The paper provides an in-depth analysis of the proposed framework, its potential benefits, and the challenges that need to be addressed for successful implementation. Additionally, a case study is presented to demonstrate the practical application and effectiveness of the proposed solution. The findings highlight the immense potential of AI and blockchain integration in shaping the future of e- commerce.

[1]Asst. Professor, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068
[2,3,4,5,6]MCA Final Year Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

Email: [1]dhiruniit@gmail.com

BLOCKCHAIN FOR COMPUTER-BASED INTELLIGENCE: AUDIT AND OPEN EXPLORATION DIFFICULTIES

Prof. Dharamvir[1], Deepika S[2], Bhavani M[3], C Swathi[4], Bhavana A[5], Gopinath A[6]

Abstract:

Lately, Artificial Knowledge (man-made intelligence) and blockchain are now two of the most stirring and risky advances. Blockchain development can modernize a portion of computerized cash and give admittance to a common record of information, exchanges, and logs in to a trusted, decentralized, secure way. Besides, with speedy plans, blockchain can coordinate correspondences among people with off limits between or a confided in pariah. Mechanized thinking, then again, offers getting it and dynamic limits concerning instruments like people. In this broadsheet, we going to introduce a down and out examination of blockchain applications for man-made knowledge. We actually look at the structure, sum up the arising blockchain applications, direction, stages, and show plainly focusing in on the reenacted knowledge district. We furthermore perceive and discuss the open investigation challenges of involving blockchain developments for artificial intelligence.

Keywords - Artificial Knowledge, AI, Blockchain, Network safety, Shrewd Agreements, Agreement Conventions.

[1]Assistant Professor, Dept. of MCA, the Oxford College of Engineering, Bengaluru, Karnataka, India-560068
[2,3,4,5,6] MCA Final Year Dept. of MCA, the Oxford College of Engineering, Bengaluru, Karnataka, India-560068

Email: [1]dhiruniit@gmail.com, [2]deepikasmca2023@gmail.com,[3]bhavanimmca2023@gmail.com, [4]cswathimca2023@gmail.com, [5]bhavanaamca2023@gmail.com, [6] gopinathamca2023@gmail.com

Fake news detection using python

https://doi.org/10.53730/ijhs.v6nS3.9537

👤 **Dharamvir**
✉ dhiruniit@gmail.com
🏛 Asst. Professor, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

👤 **Chandrakala M.**
🏛 MCA Final Year, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

👤 **Pooja Patel**
🏛 MCA Final Year, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

👤 **Phurailatpam Paona Sharma**
🏛 MCA Final Year, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

👤 **Pramodh Kumar V.**
🏛 MCA Final Year, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

Keywords: SVM, PAC, Fake News, Social Media, Machine Learning, Classifiers

ABSTRACT

This Research Paper proposed COVID-19 pandemic, a few achievement and cash related impels come to ungracefully play with identification of given data. This has presented distortion and disarray from one side of the world to the other. The issues of phony news have achieved rising importance in the dispersing of trim reports. A broad bundle of them stop to rely on the papers, magazines, and so on and began to depend on internet based redirection completely. Online redirection changed into the focal news point of convergence for a tremendous number of individuals because of their clear access, unassuming, genuinely beguiling and quick spread. The phony substance began to spread at a gigantic speed to get inescapability over electronic redirection to divert individuals from the ceaseless major issues, in unambiguous events spreading more and quicker than the genuine data. Individuals spread counterfeit news through virtual redirection for cash-related and political augmentation. Counterfeit information in all plans should be perceived quickly to keep away from a threatening outcome on society. This try makes an assessment of the appraisal-related with counterfeit news divulgence, we organized and endeavored different AI calculations independently to show the productivity of the social event on the dataset.

DOWNLOADS

📄 **PDF**

PUBLISHED

23-06-2022

HOW TO CITE

More Citation Formats ▾

ISSUE

Special Issue III

SECTION

Peer Review Articles

COPYRIGHT & LICENSING

CITESCORE 2021

2.0   2021 CiteScore

63rd percentile
Powered by Scopus

GOOGLE SCHOLAR

Google Scholar
Cited by

	All	Since 2018
Citations	550	540
h-index	14	14
i10-index	23	23
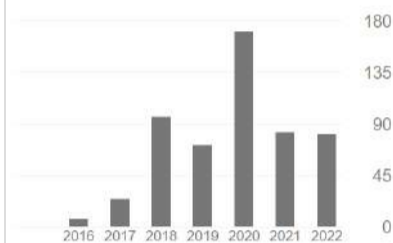
Last updated: 1 January 2023

MAIN MENU

Current Issues

Previous Issues

FOR AUTHORS

Aims & Scope

Call For Papers

Note to Contributors

Contact Us

Online Submission

Need Help

PUBLISH WITH US

High ranking

Worldwide representation

'Online First' publishing

Global exposure

MEMBERSHIP

Home   Editorial board   Issues   Archives   Contact us

Vol:58; Special Issue 02 │May 2022
Theme : Cutting Edge Development in Management, Technology & Social Sciences
Guest Editors: Dr krishanveer Singh, Dr kapil Bansal, Dr Omparakash Agrawal and Dr Prateek Bansal

Maximizing Growth- Empirical Evidence Of Impact Of Shareholder's Wealth On Economic Growth
Akarsh Agarwal and Dr. Ashok Kumar

The New Route To Being: Exploring How Self- Actualization Need Is Met On Social Media
Anju Varghese Philip and Dr. Zakkariya K. A.

Digital Divide In New Normal Learning: Evidence From Select Private And Public Academic Institutions In West Bengal, India
Sourav Kumar Das, Dr. Nilanjan Ray, Dr. Mainak Chakraborty, CS Sapana Mishra and Dr Arindam Ghosh

Employee Turnover Intention: A Comparative Study Of Public And Private Sector Banking Employees
Dr. Ritu Talwar and Dr. Priyanka Agarwal

An Analysis Of Financial Efficiency Of Century Plyboardss Ltd
Vaishali Rathore and Dr. Manish Didwania

Analysis Of Current Trends, Advances And Challenges Of Machine Learning (MI) And Knowledge Extraction: From MI To Explainable Ai
Nagendra Prasad Krishnam, Mohd. Shaikhul Ashraf, Balaji Ramkumar Rajagopal, Prashant Vats, DSK Chakravarthy and Shaik Mohammad Rafi

Application Of Artificial Intelligence (Ai) Framework In Human Resource Management
Nagendra Prasad Krishnam, Dr. K.Suresh Kumar, Dr. Hashem Ali Almashaqbeh, Dr. Hashem Ali Almashaqbeh, Dharamvir and Dr. Barinderjit Singh

A Conceptual Distributed Framework To Support The Role Of Machine Learning In Marketing Management

Role of Cloud Computing for Improvement in Healthcare Services

Check for updates

Puja Shashi

✉ Dr. Puja Shashi, Administrative Management College, Bangalore (Karnataka), India.

🔓 Open Access | 🗎 Ethics and Policies | 99 Cite | + Mendeley | 🗄 Indexing and Abstracting

Abstract: Cloud helps in offering on-demand latest technology that helps in deploying, accessing and using network-accessed information along with various applications and resources. Nowadays electronic health records are maintained by many hospitals that want to undergo a change in their legacy system. This type of transformation has helped physicians, nurses and also administrative staff access the desired record whenever needed. They believe that this may change the complete face of health information technology. However, lack of security and privacy are two important concerns that may provide hazards when choosing cloud solutions for various health-related factors. This problem can be avoided to some extent by evaluating cloud technology in an effective manner before its complete adoption. This paper uses four major aspects i.e., technology, security, legal and management for finding different types of challenges

⬇ Download PDF

PARKINSON'S DISEASE DETECTION USING MACHEINE LEEARNING

Dr Puja Shashi[1], Ambika Chatra[2], Archana M[3], Arshiya Tara S[4], Ashik E.D[5], Ashwini J.[6]

Abstract

The method examines classifying audio signal feature sets to identify Parkinson's disease (PD), which is referred to as a condition that affects the brain and spinal cord, rendering patients incapable of speaking, walking, or controlling their tremors. In this procedure, machine learning techniques are used, and the classifiers make use of the sound component dataset obtained from parametric a technique called algorithms & models utilized the UCI collection source. Thanks to XGBoost, which had an overall accuracy rate of 96 percent and an MCC of 89 percent, the system provided a considerably improved forecast of the state of the palladium patient. Parkinson's disease people disease commonly experience monotonous, low-volume noise. Parkinson's disease, a neurodevelopmental disorder, impacts many millions of people worldwide. It's important to highlight that 60% of individuals aged 50 and older are afflicted by Parkinson's disease (PD). Those with PD often encounter difficulties in both daily functioning and communication,creating a formidable task so that they attend routine medical check-ups and monitoring. The early detection Providing care for Parkinson's patients are vital for allowing individuals to sustain their regular lifestyles. The increasing global elderly population underscores the urgent necessity for swift, accurate, and remote Parkinson's disease detection. Recent progress in machine learning holds significant potential for enhancing the early identification and evaluation of Parkinson's disease. Our algorithms performed amazingly, with training success detecting from circular pictures of 95.34 percent, validate efficiency of 93.00 percent, training success for Parkinson's disease detecting from wave pictures of 93.34 percent, and training efficiency for Parkinson's disease detecting from wave pictures of 86.00 percent, respectively.

Keywords: Parkinson's Prediction, SVM, Machine learning, XGBOOST.

[1]Professor, Department of MCA, the Oxford College of Engineering, Bengaluru,Karnataka, India – 560068

[2,3,3,4,5,6]4th Semester Students,Department of MCA,The Oxford College of Engineering, Bengaluru, Karnataka, India – 560068

Email: hodmcatoce@theoxford.edu

Eur. Chem. Bull. 2022, 11 (12), 618 – 624

618

A Semantically Improved Marginalization Denoising Auto Encoder is Used to Detect Cyberbullying

J C Achutha*, Vishwanath S, Md Khalid Athar, Manoj Kumar M R & Vimal Joy

Keywords: Denoising, Auto-Encoder, Artificial Intelligence, CyberBullying, Word Embedding.

Abstract

Cyberbullying has become a big problem for youngsters as a result of the rise of social media.

"Teenagers" and "youthful grown-ups" are terms used to depict youths and youthful grown-ups. Because of AI procedures, modified distinguishing proof of pestering messages by means of electronic diversion is by and by possible, possibly adding to the foundation of a solid and safe virtual entertainment environment.This key area of exploration, Powerful and discriminative mathematical portrayal intake instant chat, has arrived at a defining moment. To settle this test, we offer another illustrative learning strategy in this review. Semantic-Enhanced Marginalized Denoising Auto-Encoder (smSDA) is a semantic difference in the by and large used significant learning model Stacked Denoising Auto-Encoder. The semantic extension is involved semantic dropout uproar and sparsity objectives, with the semantic dropout commotion being made using space data and the word embedding method.Our recommended framework can learn and take advantage of the idle component construction of tormenting data, bringing about a vigorous and separating message portrayal. Our proposed approaches outflank past essential literary portrayal learning techniques on two well known cyberbullying corpora (Twitter and MySpace), as indicated by broad testing.

🔒 PDF

Published

2022-08-10

How to Cite

More Citation Formats ▾

Issue

Vol. 44 No. 8 (2022)

Section

Articles

Make a Submission

Operational Efficiency Improvement of Power Grid by Improving MPPT Charge Controller

Dr. Prabodh Khampariya, Savitha C & Achutha J.C

Keywords: Solar Power, Power Grid, Efficiency, photovoltaic systems.

Abstract

The growth of industry, transportation, and the media have all had a significant impact on global power use in the last several decades. There is now a lot of power being generated from non-renewable resources including coal, natural gas, oil and uranium. Because of the sluggish rate of regeneration, these resources may be depleted sooner rather than later. Photovoltaic systems that are linked to the grid are the subject of this research. Optimizing inverters as interfaces between the grid and photovoltaic systems is the primary goal of this research, which aims to send energy to the grid in accordance with the network's needs. It is not only the active power that may be controlled, but also the reactive one. This paper proposes an algorithm for creating an inverter connected to the grid that can be controlled simply and reliably. The digital control approach provides the basis for it. With this research, we're able to learn more about the limits of VSCs as inverters for delivering active and reactive electricity to the grid while also enhancing power factor and harmonic content of the injected current from solar panels

🔒 PDF

Published

2022-07-25

How to Cite

More Citation Formats ▼

Issue

Vol. 44 No. 7 (2022)

Section

Articles

Make a Submission

Yantu Gongcheng
Xuebao/Chinese Journal of...

Q2   Geotechnical
       Engineering and
       Engineering...
            best quartile

SJR 2020
0.56

powered by scimagojr.com

Keywords

A comprehensive Review on power Consumption with Applied deep Analytics

Savitha C, Prabodh Khampariya, Achutha J.C

Keywords: Affordable and clean energy, micro-grid applications, micro-grid architectures, regional development, smart grid, sustainable cities, sustainable development goals.

Abstract

Generation and energy consumption are a major issue in different countries around the world. Nowadays, projects under development seek the modernization of electric power generation and distribution systems. One of the main strategies is the design of context-adaptable micro-grid architectures. The micro-grid concept focuses on a controlled, monitored and highly autonomous use of electric power supported on information technologies, for the optimization of energy transfer, minimize risks and increase the system's quality, efficiency and reliability. This article, therefore, aims to identify, classify and compare different micro-grid architectures, based on their applicability and research trends. A systematic mapping study of micro-grid architectures is conducted to examine the experimental and theoretical contributions made by the scientific community. This article categorizes and quantifies the different studies related to the subject, identifying and analysing the strengths and opportunities for improvement in the applicability of micro-grid architectures. The trends observed highlight five strategies as the most relevant, whose different characteristics contribute to an automated and intelligent organization of the distribution, control and supervision of electricity according to supply versus demand.

🔒 PDF

Published

2022-06-15

More Citation Formats ▼

Issue

[Vol. 41 No. 6 (2022)](#)

Section

Articles

Scopus

Guangdianzi Jiguang/Journal of Optoelectronics Laser

Q4 Electrical and Electronic Engineering
best quartile

SJR 2020
0.14

powered by scimagojr.com
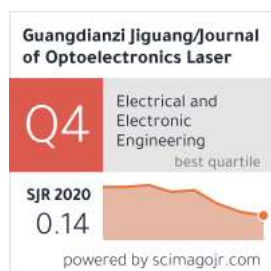
Make a Submission

DESIGN AND DEVELOPMENT OF MICRO GRID-BASED NETWORKS FOR DEMAND MANAGEMENT SYSTEM USING NEURAL NETWORK

Savitha C, Prabodh Khampariya, Achutha J.C, Chakradhar Chegu

ABSTRACT

Micro-grid is designed to operate with an EMS (Energy Management System), which dispatches the units, in order to optimize generation costs. One of the inputs to this system corresponds to the prediction of demand and also incorporates a demand management system. Objective of this paper is to design of the demand prediction block, taking into account the non-linear behavior presented by the demand. The model is designed to deliver the pre- dictions that EMS needs, that is, for a 2-day horizon. When deriving the model, a stability analysis based on the fuzzy theorems is included in the identification stages. The final model consists of four rules and 96 repressors, that is, the future demand depends on the demand of the previous day. As a result, a model is obtained that manages to deliver predictions for horizons of two days, with errors around 14%. The prediction was also analyzed using the EMS optimizer, the fuzzy model prediction had an error 11% lower than the prediction originally used, which translated into a 15% decrease in costs for the two-day optimization. The second objective corresponds to developing a methodology to model the variation in consumption in the face of demand management signals, using for this fuzzy model.

 PDF

PUBLISHED

2022-03-24

HOW TO CITE

More Citation Formats ▼

ISSUE

Vol. 54 No. 3 (2022)

SECTION

Articles

MAKE A SUBMISSION

SUBSCRIPTION

Enhancing the Naïve Bayes Spam Filter through Intelligent Text Modification Detection

🔒 PDF (https://www.provinciajournal.com/index.php/telematique/article/view/211/202)

Mridula Shukla

Asst. Professor, Dept. of MCA, the Oxford College of Engineering, Bengaluru -560068

Santhosh Kumar Reddy E

MCA Final Year Dept. of MCA, The Oxford College of Engineering, Bengaluru -560068

Ragavendra G

MCA Final Year Dept. of MCA, The Oxford College of Engineering, Bengaluru -560068

Sathish S

MCA Final Year Dept. of MCA, The Oxford College of Engineering, Bengaluru -560068

Abstract

Spam messages have been a diligent issue in PC security. They are over the top financially and exceptionally risky for PCs and associations. Despite of the improvement of casual associations and other Internet based information exchange scenes, dependence on email correspondence has extended all through the long haul and this dependence has achieved a critical need to additionally foster junk mail. Yet many junk mail filters have been made to help with hindering these junk mail messages from incoming a client's inbox, there is a shortfall of assessment focusing in on message modifications. At this point, Naïve Bayes is one of the most notable procedures for spam classification considering its straightforwardness and efficiency. Naïve Bayes is also very exact; in any case, it can't precisely bunch messages once they cover lee speak or accents. Henceforth, in this proposes, we executed a smart estimation for redesigning the accuracy of the Naïve Bayes Spam Filter so it can perceive text modifications and precisely describe the email as spam or ham.

Issue

MELOSENSE: MELODIES BASED ON EMOTION USING AUTOMATIC FACIAL EXPRESSION ANALYSIS

Prof. Liya Naiju[1], Vijay Kumar K[2], Rollapati Giri Prasad Reddy[3], Challa Nagendra Babu[4], Kovilampati Ashok[5], Udayendu panigrahi[6]

Abstract

Discover a revolutionary music experience that transcends traditional playlist creation. MeloSense is an innovative solution that automatically curates personalized playlists based on your mood, offering an immersive and captivating musical journey. Music deeply influences our daily lives and has seamlessly integrated into modern technology. However, the task of crafting extensive playlists can be overwhelming. MeloSense revolutionizes this process by intuitively selecting songs that harmonize with your emotional state. Our system harnesses the power of facial expressions to effortlessly curate playlists. By capturing and analyzing facial expressions using a built-in camera, MeloSense rapidly generates playlists, eliminating the need for manual effort and saving precious time. The system excels in both user-dependent and user-independent datasets, ensuring a truly personalized music experience. With an advanced real-time image detection algorithm, MeloSense achieves an impressive accuracy rate of approximately 85-90% for live images and an exceptional accuracy level of 98-100% for static images. This guarantees precise and reliable interpretation of your emotions. MeloSense redefines the boundaries of music recommendation systems by embracing the expressive language of facial expressions. Embark on an extraordinary adventure of music exploration tailored to your emotions, where MeloSense seamlessly synchronizes your inner world with a captivating playlist crafted exclusively for your mood.

Here are some of MeloSense's salient characteristics:
- Your facial expressions are used by MeloSense to determine your current mood. MeloSense builds a playlist of music that is in tune with your mood depending on the songs that are now playing in the background.
- High accuracy: MeloSense's accuracy rate ranges from 98 to 100% for static photos and between 85 and 90% for live images. You may therefore be certain that the music on your playlist will enhance your mood
- Personalized experience: When curating playlists, MeloSense takes into consideration your unique preferences. As a result, you'll always receive a playlist that you'll like.
- Easy to use: MeloSense is easy to use. Simply sit in front of the camera and let MeloSense do the work.

[1]Asst. Professor, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India- 560068
[2,3,4,5,6]MCA Final Year, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India- 560068

Email: [1]liyawilsonk@gmail.com

Eur. Chem. Bull. 2022, 11 (12), 608– 613

608

Search for title, author, doi.

Search

Search for title, author, doi.

Search

Search for title, author, doi.

Search

-

Search for title, author, doi.

Search

-

Search for title, author, doi.   Search

-

DRUG RECOMMENDER SYSTEM USING MACHINE LEARNING FOR SENTIMENT ANALYSIS OF DRUG REVIEWS

Mridula Shukla[1*]**, Shwetha K**[2]**, Shubham Nimbalakar**[3]**, Sagar Madar**[4]**, Sadhu Veera Mohan**[5]**, Sagar H M**[6]

Abstract

Access to licensed healthcare resources has been more difficult to obtain after the coronavirus was identified. This has the effect of dramatically decreasing availability. This includes not only a dearth of healthcare workers but also of necessary tools and medicines. Many people haverecently passed away, and this is due in large part to the problem that the medical community is facing right now. Due to the drug's limited availability, people began treating their symptoms on their own without consulting a medical professional, worsening their already precarious health conditions. This resulted in the drug's eventual release. As more and more uses for machine learning are discovered, more and more work is being done to automate formerly manual processes. Both tendencies are quite new. The study's overarching goal is to showcase a drug recommender system with the potential to drastically cut down on experts' workloads. In this study, we utilize patient feedback and ratings to create a system for recommending therapeutic interventions. To this end, we employ many different vectorization techniques, such as Bow, TF IDF, Word2Vec, and even manual feature analysis. This system can assist in selecting an appropriate drug for the treatment of an illness by applying a wide range of different classification algorithms. Several metrics, including precision, recall, accuracy, f1score, and area under the curve, were used to assess the predictability of the felt emotions. The findings indicate that the TF-IDF Vectorization-based classifier Linear SVC outperforms the other models significantly with a 93% accuracy rate.

[1*]Asst. Professor, Department of MCA, the Oxford College of Engineering,Bengaluru, Karnataka, India-560068
[2,3,3,4.5,6]MCA Final Year, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India-560068
Email: [1*]mridula.tewari@gmail.com

Corresponding Author:
[1*]**Mridula Shukla**
[1*]Department of MCA, the Oxford College of Engineering,Bengaluru, Karnataka, India-560068

Eur. Chem. Bull. 2022, 11 (issue 12), 511 – 517

511

SMART STREET LIGHT SYSTEM

Ashok B P[1], ManojKumar Naragund[2], Mohan Kumar L[3], Lokesha H[4], ManojKumar G[5], Mohammed Safi Manna[6]

Abstract:

The "Smart Street Light System" project represents a cutting-edge solution to the urban lighting challenges faced by cities today. It leverages advanced technologies like sensors, wireless communication, and data analytics to create a highly efficient and responsive street lighting system. Traditional street lighting consumes significant energy and maintenance resources for municipalities. However, this innovative system can potentially reduce these costs by 50% to 70%. In the center of this system is the smart street light controller, which is mounted on each street light pole. This controller comprises a microcontroller, various sensors, and wireless modules. It intelligently manages LED street lighting based on factors like traffic flow and communicates crucial data between neighboring street lights. Wireless technology facilitates the transfer of data from these controllers to a central base station, enabling real-time monitoring and control. The system operates in two modes: automatic and manual. In automatic mode, it autonomously adjusts the lighting intensity and timing based on traffic and environmental conditions. It achieves this by employing infrared (IR) sensors to detect approaching vehicles and obstacles. When a vehicle or obstacle is detected, the street light illuminates, ensuring safety and energy efficiency. Once the vehicle or obstacle departs, the light extinguishes, conserving energy. The real-time status of each street light, whether it's on or off, is accessible through the internet. This within the core of conveniently monitor and manage street lighting from anywhere, at any time, via an internet connection. The "Smart Street Light" project not only promises substantial energy savings and reduced maintenance costs for cities but also contributes to a safe and more sustainable urban environment.

[1]Asst. Professor, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India 560068
[2,3,4,5,6]4th Semester Students, Department of MCA, The Oxford College of Engineering, Bengaluru, Karnataka, India 560068

TRANSFORMATIVE MANAGEMENT SYSTEMS FOR GATED COMMUNITIES

Ashok B P[1], Manikant Avargol[2], Keerthana C[3], Lekhana[4], Monika S[5], Madhushree[6]

Abstract:

"TMS for Gated Communities" is a mobile application designed for 'Housing colonies' or 'Gated communities' or 'Flats' to make their colony idle by automating their day-to-day activities. The main advantage of using this application is common notifications and news service will reduce the difficulty of letting every member to be bothered about the important notifications. It is Faster and reliable. Using this application the resident can register in thissystem. They can view all news, notifications, and facilities and can book for aservice they required through the application, reduces the work of making calls for service requests. Gated communities have evolved as a popular residential option across the world, providing homeowners with a safe and private living environment. As the quantity and complexity ofthese communities expand, successfully managing their operations and serviceshas become a more difficult undertaking. Traditional management practices frequently struggle to keepup with inhabitants' different requirements and expectations, necessitating theneed for newand transformational solutions. This abstract delves into the notion of Transformative Management Systems (TMS) for gated communities, which use modern technology and dynamic techniques to transform community administration and resident happiness. TMS incorporates a wide range of intelligent tools, such as artificial intelligence, data analytics, and smart infrastructure, to create a unified ecosystem.

Keywords: Housing colonies Flats, Automating day-to-day activities, Commonnotifications, News service, Faster and reliable.

[1]Asst. Professor, Department of MCA, the Oxford College of Engineering, Bengaluru, Karnataka, India 560068

[2,3,4,5,6]4th Semester Students, Department of MCA, The Oxford College of Engineering,Bengaluru, Karnataka, India 560068

Eur. Chem. Bull. 2022, 11 (issue12), 683 – 689

683

History and Development of Computerized Training in India

Dr. M. S. Shashidhara

Professor & Head, Department of MCA, The Oxford College Of Engineering, Bangalore, Karnataka, India -560068

Mohan L

MCA Final Year, Department of MCA, The Oxford College Of Engineering, Bangalore, Karnataka, India -560068

Ajay Adhimane Y

MCA Final Year, Department of MCA, The Oxford College Of Engineering, Bangalore, Karnataka, India -560068

Mohammed Alaif H

MCA Final Year, Department of MCA, The Oxford College Of Engineering, Bangalore, Karnataka, India -560068

Tejaswini A

MCA Final Year, Department of MCA, The Oxford College Of Engineering, Bangalore, Karnataka, India -560068

Abstract

Training through web is becoming perhaps the most tyrannical structures among any remaining type of training. A ton of exertion is being placed in to work on the nature of learning and to work on the relationship among students and their instructors. High level advancement in the field of virtual training depends on the advancements being utilized on the web. E-learning has become exceptionally well known in India. The web based learning in India has a long history with broadcasting space given by the All India Radio and the Doordarshan for broadcasting recorded instructive projects for advanced education as well as for school-going kids. However numerous instructive establishments including UGC, IGNOU and NCERT utilizing the

Handling Big Data Using a Data-Aware HDFS and Evolutionary Clustering Technique

Dr. M.S. Shashidhara*, Abhishek Madhusoodhanan, Monish N, Namratha T K & Subash N

Keywords: Clustering methods, Distributed Computing, Information Management, Optimization, Scalability.

Abstract

The increased use of digital empowered plans and Internet-of-Things (IoT) prompted a colossal amount of insights with divergent developments. Most noteworthy large realities answers are developed on most elevated of the Hadoop eco-framework or use its appropriated document framework (HDFS). However, trainings consume uncovered disorder in such plans when business with the present realities. Some examination overpowered these errors for accurate sorts of chart measurements, however the present realities are extra than one sort of insights. Such skill subjects head to enormous gage misfires, including predominant space required in realities places, and left-over in capitals (like control ingesting), that state of the art go lead to environmental errors (like more fossil fuel byproduct) [1], according to scholastics. We propose an information mindful part for the Hadoop eco-framework. We also propose a scattered influence technique for Hereditary Systems. Our construction lets Hadoop to accomplish the inventory of measurements and its task established on pack assessment of the insights himself. We stay skilled to hold an extensive assortment of realities types as solid as upgrade enquiry time and save practice.

🔒 PDF

Published
2022-08-10

How to Cite

Dr. M.S. Shashidhara*, Abhishek Madhusoodhanan, Monish N, Namratha T K & Subash N. (2022). Handling Big Data Using a Data-Aware HDFS and Evolutionary Clustering Technique. *Yantu Gongcheng Xuebao/Chinese Journal of Geotechnical Engineering*, *44*(8), 59–65. Retrieved from http://ytgcxb.periodicales.com/index.php/CJGE/article/view/147

More Citation Formats ▼

Issue

Vol. 44 No. 8 (2022)

Section

Articles

Make a Submission

Keywords

Analysis of Adversarial Attacks against Speaker Recognition System

Dr. Ms Shashidhara*, Akshath, Akashh D, Abhilashmv & Thanujas N

Keywords: Threat, Real Time, Universal and Robust Adversarial Attacks.

Abstract

Voice user interface (VUI) is being widely utilized these days. Speaker recognition system are popular in applications like smart home and smart devices using like alexa , google assistant ,google home these are easy to use from remote control from involving deep neural network . Literature shows that implementation of attacks against these voice control like alexa google assistant are been attacked by virus and how to protect future directions. In numerous security-delicate applications and administrations, a speaker An imperative approach to perceiving a speaker has arisen a recognizable proof framework. The principal constant, unavoidable, and strong ill-disposed attack on a cutting edge profound brain organization deep neural network (DNN) based voice acknowledgment framework is proposed in this examination. The Deep nueral networks based speaker distinguishing proof framework would perceive any selected speaker as any objective (i.e., enemy wanted) speaker name by applying a sound free thinker worldwide bother to their voice input.We further work on our attack's versatility by mimicking sound contortions incited by actual over-the-air transmission and registering room motivation reaction (RIR). With a high assault achievement pace of more than 90%, an examination utilizing a public dataset of 200 English speakers demonstrates the viability and strength of our proposed method. This assault is 100x quicker than other non-widespread assaults.

🔒 PDF

Published

2022-08-10

How to Cite

More Citation Formats ▾

Issue

Section

Articles

Make a Submission

Yantu Gongcheng
Xuebao/Chinese Journal of...

Q2 Geotechnical
Engineering and
Engineering...
best quartile

SJR 2020
0.56

powered by scimagojr.com

Keywords

NVEO

**Natural Volatiles &
Essential Oils**

Application Of RBNN Method For Identification Of Thyroid Disease Cases Using Electro Photonic Images

Indrakumar S S[1] , Prof. M S Shashidhara[2]

[2]Research Scholar Dept. of Computer Applications The Oxford College of Engineering, Bangalore-560068,India.

[2]Dept. of Computer Applications The Oxford College of Engineering, Bangalore-560068,India.

Abstract

Many diseases affect human beings, and various methods are used to understand these disease conditions. ElectroPhotonic images also help diagnose disease much earlier, like before physical symptoms appear in the body. Energy fields of Humans, Plants, and Crystals can be measured using Electro photonic imaging. A special camera is used to gather these images, referred to as an EPI camera. This paper gives insight into the detection and classification of Thyroid disease using Electro Photonic Images. Image processing is carried out using the Radial Basis Function to detect and classify Thyroid patients.

Keywords: Kirlian photography, Medical diagnosis, Energy, Aura, Chakras, Thyroid, RBNN

Introduction

According to modern science, the human organism is made of molecules, and these molecules need energy which is provided in the form of food, light, and water. The overall energy in the body creates an energy field. We are learning to measure this energy fields using the Kirlian camera.

When a human being is affected by any disease, it will appear in the form ailment in the body. Since the human body is made of cells, these cells are affected. Energy levels of the human body are captured during this process used to identify the diseases. Images collected from Non-Thyroid and Thyroid. These images are classified using the Radial Basis Function Neural Network method as Non-Thyroid and Thyroid.

1. Energy

We get energy from the universe in some form from Sun, Air, and Water. All living organisms need energy to live. All living organisms require energy from their food intake, along with these energies. The bioenergy field surrounds every human. An electrocardiogram device helps to understand the electrical activity of the Human Heart**,** and Electroencephalogram can be used to measure Brain bioenergy. Various magnetic imaging devices can measure electromagnetic fields around the human body. We have an energy system

AN EMPIRICAL STUDY ON ACCOUNT RECEIVABLES & ACCOUNT PAYABLES MANAGEMENT AT COMPOSITE INVESTMENTS PVT LTD, BANGALORE

Dr. V Sravana Kumar, Prof. V Lakshmi Suneetha

ABSTRACT

Working capital plays an important role in determining the financial strengths and weakness of a company. The project is entitled to "An Empirical Study on Account Receivables & Account Payables management at Composite Investments Pvt Ltd, Bangalore". The main objective of the study is to analyse financial performance of the Composite Investments Pvt Ltd. Judgement sampling is considered and the sample size of the report is 5 financial years. Data collected is secondary data (balance sheet and profit and loss account) and analyzed using SPSS, by ratio analysis, trend analysis to understand the financial position of the company. It is found that there is a decrease in current liabilities and increase in the current assets over the considered financial years. The suggestions reveal that the company has to strongly focus on reducing working capital strategies that will make the company more profitable. The company has a bright future and can achieve the overall objectives of the company if it concentrates more on its working capital and short-term investments.

 PDF

PUBLISHED

2022-12-04 — Updated on 2022-12-06

VERSIONS

2022-12-06 (2)

2022-12-04 (1)

ISSUE

Vol. 13 SPECIAL ISSUE 08 (2022)

SECTION

Articles

HOW TO CITE

MORE CITATION FORMATS ▾

MAKE A SUBMISSION

Monthly Publication / Volume 15 Issue 38 September 2022

Does Microfinance Provide Only An Illusion For Poverty Reduction? –Evidence from a Systematic Review on Different Facets Empowering Rural Women
Dr. V Lava Kumar, N Sathyanarayana, Dr. Madireddi SSV Sri Kumar and Dr. Guru Prasad BG

Gender Asymmetry and Inequality in Language: A Neutral Outlook
Rhea Pai and Dr. Sonal Sharma

Investors Perception and Awareness on Mutual Fund Investment Decision-Making: Post Covid-19
Dr. M. Thyagaraju, Ramesh Kumar, Dr. Sanjeev Chepyala, Dr. Subhash Chand Goel, Dr. S. Saravanan and Dr. Meena Sunil Sharma

Personality Traits as Antecedents of Customer Orientation: The Moderating Effect of Stress Variables on Customer Contact Service Employees
Sudarshan Seshanna, Monoo John, Meera K.L. and Renuka Babladi

Students Motivation: A Research Study on the Relevance of E-Learning on Higher Education
Dr. Kaushik Mishra, Parmar Vishalkumar Rajendrasing, Parnab Ghosh, Dr. Anil Kumar Dixit, Dr. Mohammad Shakeel and Dr Vinima Gambhir

Quality of Work Life: A Conceptual Framework in Education Sector
Dr. Amit Channa, Dr. Senthil Kumar M K, Parnab Ghosh, Saidatul Akmar Ismail, Ms. Sripriya Gurazada and Deepa Manoj Nair

KCI 소개   논문 검색   학술지 검색   기관 정보 검색   인용 정보 검색   통계 정보   정보마당   논문유

KCI 통합검색

통합검색   검색어를 입력해 주세요

Abdul Kadar C. H [1] , Muhammad Faisal [2] , N. Maruthi [3] , Narasimha Raghavendra [4] , B. P. Prasanna [5] , S. R. Manohara [6]
[1] PES University-Electronic City Campus
[2] PES University-Electronic City Campus
[3] PES University-Electronic City Campus
[4] K.L.E Societies P.C. Jabin Science College
[5] Jain University
[6] Siddaganga Institute of Technology

초록 ▲

This paper presents the suitability of polyaniline/zinc tungstate (PANI/ ZnWO4) nanocomposites with tunable electrical properties for a range of multifunctional applications. In-situ oxidative polymerization method was employed to synthesize the PANI/ZnWO4 nanocomposites with different mass percentages of the dispersant ZnWO4 (10%, 20%, 30%, and 40%). The structural features of the samples were analyzed using X-ray diffraction, Fourier transform infrared spectroscopy, scanning electron microscopy (SEM), transmission electron microscopy, and Raman spectroscopy techniques. Frequency-dependent electrical conductivity studies and dielectric responses were investigated for PANI/ZnWO4 nanocomposites in the range of 100 Hz - 1 MHz. PANI/ZnWO4 nanocomposites showed tunability in the observed high dielectric constant owing to the conductivity relaxation with varying dispersant concentrations. The electromagnetic interference shielding effectiveness (EMI-SE) of the PANI/ZnWO4 nanocomposites were found to be increased from -14 dB to -21 dB with enhancing wt% of ZnWO4 in the PANI matrix. The composite samples displayed practically relevant shielding effectiveness in the entire microwave, Xband covering 8 to 12 GHz. The overall attenuation of the incident EM energy was around 99%, which is highly suitable for diverse EMI shielding applications. The nature of mild steel (MS) metal corrosion in 5 M HCl solution in the unprotected and protected system was studied by using SEM, AC impedance spectroscopy, potentiodynamic polarization (Tafel plots), and atomic absorption spectroscopy (AAS) techniques. The preliminary results indicate the mixed-type anticorrosion behavior. The AAS, AC impedance spectroscopy, and SEM results support the potentiodynamic polarization results.

키워드 ▲

nanocomposite, Raman spectroscopy, electric properties, EMI shielding, anticorrosion behavior.

인용현황

KCI에서 이 논문을 인용한 논문의 수는 0건입니다.

Enhancing electromagnetic interference shielding effectiveness (EMI SE) of anticorrosive polypyrrole/zinc tungstate composites: multifunctional approach

C. H. Abdul Kadar, Muhammad Faisal ✉, Narasimha Raghavendra ✉, N. Maruthi ✉, B. P. Prasanna & K. R. Nandan

Abstract

The current investigation highlights the characterization and synthesis of polypyrrole/zinc tungstate ($PPy/ZnWO_4$) nanocomposites with multifunctional applications. $PPy/ZnWO_4$ nanocomposites were synthesized with varying $ZnWO_4$ weight percentages (5, 10, 15, 20) by in situ polymerization process. X-ray diffraction, Fourier transform infrared spectroscopy, and scanning electron microscopy were employed to evaluate the structural, compositional, and morphological properties of the samples, respectively. The monoclinic wolframite structure has been revealed by powder XRD for all zinc tungstate and $PPy/ZnWO_4$ composites. The enhanced AC conductivity of the nanocomposite as compared to that of pristine PPy is discussed based on in situ polymerization effects. The dielectric behavior of $PPy/ZnWO_4$ samples was analyzed in the frequency range of 100 Hz to 6 MHz. The EMI shielding behavior of the composites showed that 99% of EM noise can be attenuated with high microwave-absorbing characteristics. Further, atomic absorption spectroscopy (AAS), potentiodynamic polarization, AC impedance spectroscopy, and SEM technique results showed relevant corrosion protection property of the nanocomposite on MS in 5 M HCl solution. The observed results confirm the possible optimization of $PPy/ZnWO_4$ composites with good tunability over electrical conductivity and dielectric behavior coupled with anticorrosive nature for broadband EMI shielding applications.

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF

39,95 €

Rent this article via DeepDyve.

Original Research Article | Published: 06 January 2023

Anticorrosive Polypyrrole/Barium Ferrite (PPy/BaFe$_{12}$O$_{19}$) Composites with Tunable Electrical Response for Electromagnetic Wave Absorption and Shielding Performance

C. H. Abdul Kadar, Muhammad Faisal ✉, N. Maruthi ✉, Narasimha Raghavendra ✉, B. P. Prasanna, K. R. Nandan, S. R. Manohara, M. Revanasiddappa & C. K. Madhusudhan

Abstract

This paper highlights the suitability of PPy/BaFe$_{12}$O$_{19}$ composites with tunable electrical properties as well as anticorrosive properties for broadband electromagnetic interference (EMI) shielding applications. A PPy/BaFe$_{12}$O$_{19}$ composite was structurally and morphologically investigated using x-ray diffraction, Fourier-transform infrared spectroscopy, Raman spectroscopy, and scanning electron microscopy (SEM) techniques. Both electrical conducting and dielectric attributes have shown property modifications with varying concentrations of the dispersant, barium ferrite. The corrosion inhibition response of PPy/BaFe$_{12}$O$_{19}$ composites on an aluminum metal surface in 0.1 M NaOH solution was analyzed using atomic absorption spectroscopy, potentiodynamic polarization, and AC impedance spectroscopy. The morphological features reconfirming the corrosion inhibition nature of the composites were recorded using SEM. Furthermore, a mixed corrosion inhibition property was confirmed by potentiodynamic polarization plots. EMI shielding and microwave attenuation characteristics of the composites were investigated in the practically relevant microwave broadband frequency spectrum of 8–12 GHz (X-band). The efficiency of these anticorrosive composites towards the suppression of ever-increasing EMI has been confirmed by the observed shielding efficiency in the range of − 23 dB to − 27 dB (> 99% attenuation).

This is a preview of subscription content, access via your institution.

Access options

Buy article PDF

39,95 €

Rent this article via DeepDyve.

Browse ⌄   My Settings ⌄   Help ⌄   Institutional Sign In

Books

Conferences   Institutional Sign In

Courses

Journals & Magazines

Standards   🔍

Recently Published   ADVANCED SEARCH

Popular

FEM Analysis of Railway Brake Disc for Safety of Train

Publisher: IEEE   Cite This   📄 PDF

Deepa. N. ; Sneha Sharma ; H N Gayathri ; Preeta Sharan ; Rakesh BR ; Abhishek Gopalakrishna Bhat   **All Authors** •••

23
Full
Text Views

®   🔗   ©   📁   🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

📄
Downl
PDF

Abstract: Monitoring the temperature of disc brakes is crucial for ensuring their optimal performance in railway applications. To address this issue, a finite element analysis is c... **View more**

▾ Metadata

Abstract:

Monitoring the temperature of disc brakes is crucial for ensuring their optimal performance in railway applications. To address this issue, a finite element analysis is conducted using Ansys software to assess temperature fluctuations in various parts of the brake under different conditions. Various factors such as payload, speed, and other variables can affect the braking mechanism and lead to brake failure. By installing a FBG sensor on the axle near the contact surface between the brake and the axle, it is possible to detect temperature changes as heat flows from the brake's outer frictional surface towards the axle. This is significant because a small temperature variation near the axle can have the same impact as a large temperature variation near the frictional surface.

Published in: 2023 10th International Conference on Computing for Sustainable Global Development (INDIACom)

Date of Conference: 15-17 March 2023

Date Added to IEEE *Xplore*: 04 May 2023

▸ ISBN Information:

INSPEC Accession Number: 23318399

Publisher: IEEE

Conference Location: New Delhi, India

📋 **Contents**

I. Introduction

A rolling railway has kinetic energy, which must be utilized to stop the train. The simplest method to do this is to convert the energy into heat. In most cases, the change is achieved by applying a contact material to the rotating wheels or the axle-mounted discs. Friction is produced by the substance, which then heats up the kinetic energy. The train actually comes to a stop as the wheels begin to slow down. Typically, braking materials come in the shape of blocks or pads. Consider a car that is a mile long. The vehicle is so long that the front may be descending while the back is ascending, or the front and back may be moving left while the center is turning right [1].

Design and simulation of a highly sensitive one-dimensional photonic crystal for different chemical sensing applications

P.R. Yashaswini [a] ✉ , H.N. Gayathri [b], Indira Bahaddur [a], PC Srikanth [b]

Show more ⌄

≔ Outline | ⤳ Share | 🔖 Cite

Abstract

The main goal of this study is to construct a highly sensitive one-dimensional (1D) photonic crystal sensing system for chemical detection. Magnesium fluoride and cadmium fluoride, tantalum pentoxide and silicon dioxide, titanium dioxide and silicon dioxide, and zinc sulphide and silicon dioxide are the four different layer materials that have been taken into consideration. Defect layer width ranges from 3500 nm to 5000 nm. Every combination of layers that was taken into consideration exhibited sensitivity that was greater than 500 nm/RIU, according to the simulation results. In that combination of layers, silicon dioxide and titanium dioxide have shown the highest sensitivity of 675 nm/RIU. Defects wider than 4000 nm can achieve 98% transmission efficiency. The sensor displayed a Figure of Merit (FoM) of 8437, a limit of detection (LOD) of 7.30 $\times 10^{-6}$ RIU, and a maximum quality factor of 13,687.

< Previous   Next >

Keywords

Photonic Crystal; Defects; Chemical Sensor; Sensitivity; Transmission efficiency; one-dimensional (1D) material; Figure of Merit (FoM); Limit of Detection (LoD)

Processing math: 100%

1. Introduction

For the detection of blood plasma and malignant cells, a one-dimensional (1D) photonic crystal (PhC) based sensor has previously been developed (Ankita et al., 2021). The sensor was created by sandwiching layers of two different types of minerals, such as SiO2 and TiO2 (Haron et al., 2017). The effectiveness of the sensor system is assessed using several mathematical techniques. For a sample layer thickness increase from 100 nm to 300 nm, the sensing layer's sensitivity is raised to 71.25 nm/RIU. For haemoglobin, the sensing layer's sensitivity was 73 nm, while for blood plasma, it was 72 nm. In this research, a 1D photonic crystal-based biosensor for the diagnosis of malaria has been developed, and different blood sample concentrations have been used for sensing (Abd, 2023). Most of the photonic crystal sensor has been designed and analysed for biosensing application in detection of different bioanalytes and different micro pressure sensing application with photonic crystal strains sensor.

To diagnose malaria, a well-known transfer matrix approach has been used. The sensor's highest sensitivity has been measured at 495.63 nm/RIU.

Peak resonant shift has been observed for varying refractive indices of the sample layer (Goyal, 2020). A high-sensitivity photonic crystal biosensor has been designed and analyzed for bio-sensing application. In this paper, the area between the target analyte and the sensing layer has been increased to optimize the sensitivity of the sensing structure (Aly et al., 2021). A three-dimensional finite-difference time-domain (FDTD) simulation is considered during the analysis and the sensitivity of sensing structure was increased up to 500%. Then the mode profile analysis of the waveguide has been analysed for identifying and suggesting the evanescent field of the guided light (Mounir et al., 2019). The author's also discussed the binary structure of a 1D photonic crystal sensor and the average sensitivity obtained for changing the defect layer thickness is around 1025 nm/RIU (Dalmis et al., 2019). A 1D photonic crystal has been designed and analysed for

Theoretical investigation of Bragg Reflector optical sensor for the measurement of cryogenic temperature

Ranjith B. Gowda [a] [b] , H.N. Gayathri [c], Preeta Sharan [d], K. Saara [a]

Show more ∨

Share   Cite

Abstract

The goal of the proposed work is to design and analyze a low temperature sensor to measure cryogenic temperature in the range of 0–120K. Proposed sensor design uses Distributed Bragg Reflector (DBR) multi-layer structure. DBR consists of high-low alternate dielectric materials arranged in one direction which acts as a one-dimensional photonic crystal (pc). Gallium Arsenide (GaAs) is used as high dielectric material and air as low dielectric material. GaAs dielectric constant is a function of the temperature and hence it can be used to detect any variation in the temperature. In this work, the number of alternate multi-layers (N) is chosen as 8 and the frequency of input electromagnetic wave is taken as 24THz. We achieved a high sensitivity of 1.525nm/K with a Q factor of 3534. The proposed sensor suits for the applications where critical low temperature measurement is needed.

Introduction

The optical properties of photonic crystal (pc) were first studied and developed by Yablonovitch [1] and John [2]. These types of materials have an alternate variation of dielectric constant in defined directions. This makes the crystal to exhibit certain interesting properties for the incident light on it. An incident light is allowed to pass through the structure with certain band of frequency by rejecting in the other regions. The rejected frequency band is termed as Photonic Band Gap (PBG). With the structural modifications of the pc, it is possible to make an input light of specific frequency to propagate through the structure. Many optical devices can be designed, analyzed and fabricated by precisely controlling the light properties inside the structure [3], [4], [5]. One-dimensional (1D) pc has an alternate dielectric constant variation in single direction. Several optical devices were designed using 1D pc like detector [6], switches [7], various sensors [8], [9], and optical filter [10].

Distributed Bragg Reflector (DBR) has periodic structure of stacked high-low alternate dielectric materials over a certain length (N). The incident light on the structure experiences multiple reflections at every interface between the two layers. Because of this a wide reflection band is observed in the transmission spectra in certain frequency range. The region of frequency where the propagation of light inside the structure is prohibited is called as stop band. The light property can be accurately controlled by changing regular variation of high-low dielectric material layers and it opens a window for the development of novel optical sensors. Various pc and fiber sensor designs were proposed in the literature. Temperature is one of the critical parameters that has to be monitored and measured in many engineering and scientific applications. Most temperature sensors were developed using Resistance Temperature

IEEE.org   IEEE *Xplore*   IEEE SA   IEEE Spectrum   More Sites   Subscribe

Subscribe   Cart   Create   Pers

Account   Sign

References

References is not available for this document.

Institutional Sign In

Browse ⌄   My Settings ⌄   Help ⌄   Institutional Sign In

Institutional Sign In

All   ⌄

🔍

ADVANCED SEARCH

Conferences   >   2022 2nd International Confer...   ❓

Enhancement of Meta Verse Capabilities by IoT Integration

Publisher: IEEE   Cite This   📄 PDF

Vivek Veeraiah ; Gangavathi P ; Shahanawaj Ahamad ; Suryansh Bhaskar Talukdar ; Ankur Gupta ; Veera Talukdar   **All Authors** •••

Ⓡ   🔗   ©   📁   🔔

Alerts

Manage Content Alerts

Add to Citation Alerts

Abstract

Document Sections

I. Introduction

Abstract: Due to increasing demand of Meta-verse, there is needed to enhance the performance during object detection in

II. Proposed Methodology   environment. Several education institutions are m... **View more**

**IEEE websites place cookies on your device to give you the best
user experience. By using our websites, you agree to the
placement of these cookies. To learn more, read our
Privacy Policy.**

III. Result and Discussion

IV. Conclusion

V. Future Scope

▶ Metadata

Accept & Close

Abstract:

Due to increasing demand of Meta-verse, there is needed to enhance the performance during object detection in meta-
verse environment. Several education institutions are making use of meta-verse while many social groups are considering
meta-verse for communication purpose. There are several commercial applications that are making use of meta-verse
environment. It has been observed that there are lots of graphical objects present in meta-verse environment. There have
been several factors that are affecting the performance of meta-verse environment. There is need to introduce image
processing mechanism over meta-verse environment. The motto of research is to propose system that would allow
identifying virtual objects in meta-verse efficiently without any delay. This research would integrate image processing and
learning environment in order to detect object with enhanced performance.

Authors

Figures

References

Citations

Keywords

Metrics

More Like This

☰ Contents

I. Introduction

Influence of nanomaterial coated condensing surface on the productivity of evacuated tube assisted solar still

P. Gangavathi [a] ✉ , G. Ramya [b], M.S. Karuna [c], K. Jeyapiriya [d], Pramod B Magade [e], D. Manirathnam [f]

Show more ∨

Share   Cite

Abstract

In this current investigation, an attempt has been endeavored to examine the synergistic effect of using a nano-coated hydrophobic condensing glass as well as the integration of evacuated tubes (ETC) on the productivity of the single sloped solar still (SSS). Three numbers of SSS with the analogous configuration had been employed during the experimental trials. However, the first still was used as it is, the second still was equipped with the nano-coated condensing top glass and the third still was integrated with the ETCs in addition to the nano-coated glass. The fumed silica nanoparticles were used for preparing hydrophobic coating over the glass. The investigations were pursued in the southern part of India during the month of February in 2021. The findings evidenced that the use of both nano-coated glass and the ETCs seems to be synergistic in terms of enhancing the performance of the still and it was noted that 28.53% increment in yield was attained with such synergistic combination, comparing to the ordinary SSS. Whereas, the aforesaid increment was 15.49% more comparing to the yield of the still containing only nano-coated glass.

Introduction

In spite of the fact that clean water is one of humanity's most fundamental requirements, the contamination that is caused by items generated by humans has a negative impact on this resource. Roughly 98 percent of the world's water supplies are made up of saltwater, while the rest of 2 percent is made up of fresh water that may be found on the surface of the planet or as the groundwater [1], [2]. As a consequence of this, only about one percent of the clean water, on the world is well within the range of humans for use in potable and agricultural reasons. Owing to the deprived characteristics of clean water, it is being anticipated around the mid of the 21st century, 67% of humankind would be facing a scarcity of drinkable water in various areas of the globe [3], [4]. These shortages are expected to occur in several different regions of the planet. The quantity of potable water that is available has indeed been steadily trending down few years, despite the fact that the consumption for it is growing quickly. Now, it is the optimum age for innovation to contribute significantly and help bring the amount of drinking water closer in order to meet the demands for it. Any technological advancement made by researchers would be only eligible for implementation into society on the situation that the proposed method has not harmful to the environment and can be sustainably maintained financially as things are right now. Several different methods have been developed for the intention of distillation; however, the vast majority of these methods would not meet the requirements outlined earlier [5], [6].