2024 IEEE North Karnataka Subsection Flagship International Conference (NKCon 2024)

Bagalkote, India 21-22 September 2024



IEEE Catalog Number: CI ISBN: 97

CFP24CK2-POD 979-8-3503-6457-6

Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP24CK2-POD

 ISBN (Print-On-Demand):
 979-8-3503-6457-6

 ISBN (Online):
 979-8-3503-6456-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633 E-mail: curran@proceedings.com

E-mail: curran@proceedings.com
Web: www.proceedings.com



2024 IEEE North Karnataka Subsection Flagship International Conference (NKCon)

Table of Contents

SI.	Paper ID	Authors	Article title	Pg.
1.	21	P Nandieswar Reddy, Sai Aswath S, Rithvika Alapati, Radha D	Real-time Tweets Analysis using Machine Learning and Bigdata	1
2.	29	Rajan Lal Karna, Bishal Babu Rajbanshi, Priyanshu Mishra	A Novel Approach for Bitcoin Price Prediction	7
3.	39	Thimmaraja Yadava G, Nagaraja B G, Sumanth Reddy M, Rohan K, Luqmaan Mujahid Mohamed	Advancements in Speech-to-Text Systems for the Hearing Impaired	14
4.	54	Abel C. H. Chen, Bon-Yeh Lin, Cheng-Kang Liu, Chun-Feng Lin	V2X Credential Management System Comparison Based on IEEE 1609.2.1 and ETSI TS 102 941	20
5.	102	Adithya H K, Aishwarya Kulkarni, Archana B, Chandana K T, Pushpa Mala S	Exploring Memristor Integrated R-2R DAC: A Study in Circuit Optimization and Performance	26
6.	103	Adithya H K, Aishwarya Kulkarni, Archana B, Chandana K T, Pushpa Mala S	A Study on Circuit Optimization and Performance of Memristor-Integrated 3 bit Pipeline DAC	31
7.	112	Sthuthi A, K Naveen Kumar, Nandan N, Revanth O G, Karthik C S, Goutham M	Fabrication And Characterization of Zinc Oxide/Tungsten Oxide Bi-Layer Structure Gas Sensing	37
8.	133	V R Ravi, S Hemajothi, R Jothika, M Lakshmi Priya, A Kalpana	Detection of Grape Leaf Disease Using Deep Learning	42
9.	135	Ashwini Kumari P,Pradeep Kumar S, Karan P, Gagan K, Kiran Y S, Manohar N	Unmanned Smart Fire Fighting Systems for Forest and Wildlife Protection	47
10.	146	Sai Deepa Bhavani Peri, Radha, S Santhanalakshmi	Chatbot to chat with medical books using Retrieval-Augmented Generation Model	53
11.	150	A. Backia Abinaya, K. Preethi, S.Janani , S. G. Hymlin Rose	Secure IoT: Fortifying IoT Security with Support Vector Machines	58
12.	165	Sunilkumar M. Hattaraki, Kavya Halemani, Shankarayya G., Kambalimath, Anjali Bhairagond, Lakshmi Khedagi, Prjwal Hiremath,	Evaluation of Speech Enhancement Algorithms for Hearing Aids	64
13.	166	Neelay Unde, J.V Alamelu, Raghavendra V Naik, Ayush Anand	Comparative Analysis of Perovskite, Optical Concentrator, and Conventional Silicon Solar Panels with Robotic Integration for Enhanced STEM Learning	69
14.	167	Thanay Kumar Y R, Sudhanva S Joshi, Sujan A T, Ujwal Karanth K V, Asha Rani K P, Gowrishankar S	NutriSpy: Investigate Your Food's Health Quotient	76
15.	170	Dharshan J Y, Arjun R Amarnath, Valupadasu Srujan,, Radha D.	Validation of ARM Processor Instructions using Deterministic Finite Automata	82
16.	172	Rahul Dattangire, Rushikesh Burle, Divya Biradar, Leelkanth Dewangan	Machine Learning-Based Security for Cloud Computing Challenges and Implications	89

17.	182	Spoorthi S P, Shruthi K M, Siddika	Aquastream Integrated Communication System	96
		Sabahath Anjum, Yashvardhan M		
18.	186	Ramanna T, P Deepa Shenoy, Venugopal K R	Exploring Japanese Language Reviews on Amazon Products: Leveraging Word Embedding and Deep Learning Methods	102
19.	191	Dr T M Geethajali, Prajwal Gowda C M, Prithviraj B, Priyanka, Prajwal K M,	Agroinsights Chatbot: Ai-Driven Precision Farming For Optimal Yields, Crop Selection, And Disease-Free Harvests	108
20.	193	Harsh Kumar, Parth M Garg, Manjunath R Kounte, Tirumal Gowda	Design and Development of Intrusion Detection System Using Two point Setup	115
21.	197	Vani B V, C D Guruprakash	Ia-Mstm: Improved Adaptive Moment Estimation Enabled Mixed Attention-Based Long Short-Term Memory For Crop Yield Prediction	120
22.	208	Ashwin Raj Lendalay, Mohd Afnan Ahmed, Rupesh Pabba, R U Karthik, Sudheer Reddy Katta, Kowdodi Siva Prasad	Development and Implementation of a Virtual Reality Simulation for an Immersive College Environment Using the Unity Game Engine	126
23.	222	Tarunya G, Jyoshitha Pechetti, Sneha Yadav, Shail Garg, D. Radha	Automation of Subway Surfers using Finite State Machines	134
24.	226	Akshata Hunashikatti, Nikita Patil, Anita Sajjan, Sumedh Mulasavalagi, Sahana Kalligudd	A Three Phase 17-Level Cascaded H-bridge Multilevel Inverter With Load Induction Motor	141
25.	237	Navaneethan S, Shilpa K, S.Priyadharshani	Implementing Deep Learning to Identify Skin Cancer from Dermoscopy Images	147
26.	242	Venkatesh, Nagaraju Y, Darshan D, Sahanashree K J, Nagamani P N, Satish B Basapur	BoneSegNet: Enhanced 2D-TransUnet Model for Multiclass Semantic Segmentation of X-Ray Images of Human Hand Bone	153
27.	243	Ankit Karki, Kalakunnath Namitha, Kunal Singh, Ronak Agrawal	A Personalized Visual Communication App for Children with Autism	161
28.	246	Shanta Kallur, Suman Yaligar, Puneeth N. Thotad	Boosting-Based Machine Learning Approaches for Diabetes Prediction using Indian Demographic and Health Survey Data	166
29.	256	Medha Kudari, Anupama S., Nandeppanavar, Puneeth Thotad, Sahana Jatti, Sahana Koti	A Machine Learning based approach for Bird Migration Detection and feature analysis with SHAP	173
30.	260	Deeksha R Shankar, Prajwal Parappanavar, Ashwini Kodipalli	Accurate Detection and Classification of Alopecia using Machine Learning Models and Interpretation using LIME and SHAP Explainers	180
31.	262	Keerthana A V, Surabhi A S, Supreeth S, Ashwini Kodipalli, Trupthi Rao	Analysis of Airline Passengers' Satisfaction in Multiple Dimensions	185
32.	272	Yash M Dalal, T Y Satheesha, Supreeth S, Asha PN, Amuthabala K, Sowmya Somanath	Optimizing Security: A Comparative Analysis of RSA, ECC, and DH Algorithms	192
33.	278	Snehal Mali, Moiz Bohari, Aukar Gurnule, Diptee Chikmurge, Sunita Barve	Enhancing Dermatological Diagnosis: A Deep Dive For Skin Lesion Classification	198
34.	286	Shreya Mattikalli, Vijay Rayar, Bharati Yallure, Shweta Akki, Santosh Thane	AUTOSAR-Enabled Throttle Position Sensor Testing and Analysis using MATLAB	204

35.	326	Mahantesh M. Sajjan, Laxmi Pujari,	HealthPredictor: Accurate Health Insights at Your	209
		Vishwanath S Kamatar, Nausheen	Fingertips	
		Ammanagi, Meenaz Belavatgi		
36.	337	T. Manju Usha Sree, Padmini		215
		Sasikumar, Samreen Ayesha, Md	A Machine Learning Approach	
		Shaik Amzad Basha, M Martha		
		Sucharitha		004
37.	339	Abhishek Maheshwari, Amit	Towards an Improved Model for Stability Score	221
		Malhotra, Bhupendra singh hada,	Prediction: Harnessing Machine Learning in	
		Monica Ranka, Md Shaik Amzad Basha	National Stability Forecasting	
38.	353	Kottala Sri Yogi, Dankan Gowda V,	Enhancing Healthcare Delivery Through IoT	228
50.	333	Manoj Kumar S B, R.Nithya,	Applications in Remote Patient Monitoring and	220
		A.Yasmine Begum, Suganthi.N	Telemedicine	
39.	371	Neha Patil, Nataraj Urs.HD		236
	0		Communication Bandwidth	
40.	402	Laxmi Pujari, Vishwanath Kmatar,	Spice Vision: Deep Learning Enhanced Spice	241
		Meenaz Belavatgi, Pradeep	Classification System	
		Surasura, Mahantesh M. Sajjan,		
		Nausheen Ammanagi		
41.	406	Kapil Dev Sharma, Hemraj Saini,	Mathematical Insights into Cryptographic	247
		Suchi Johari	Algorithms: Recent Analysis and Future	
			Directions	
42.	410	A Padmavathi, Tandra Debarati	Smart Online Examination Cheat detection using	253
		Shome, D. Prasanth Kumar, K.	Gaze Analysis	
40	440	Nithish Kumar Reddy	F	000
43.	412	Aditya Pratap Singh, Jagendra		260
		Singh, Santosh Kumar Mishra,	Images Using a Hybrid ResUNet Model	
		Madhup Agrawal, Nidhi, Prakash Joshi		
44.	415	Supriya Telsang, Tanvi Pokale,	Heart Disease Prediction using Machine Learning	266
	113	Anagha Posugade, Pradyot Patwal,	Theat e bisease i realisation asing washing Learning	200
		Prachi Shirode, Om Popade		
45.	422	Ch. Varalakshmi, Sowmya	Harnessing Machine Learning for Mental Health:	272
		•	A Study on Classifying Depression- Related Social	
		Lakshmi, Parthiban R, Md Shaik	Media Posts	
		Amzad Basha, M Martha		
		Sucharitha		
46.	425	Sivasakthi T, Shanmugha Jeyashree	Design And Development of "RESCUBA" for Life	277
		B, Prakash P, HemaKrishnan A	Rescue Administration	00.
47.	441	N.Sreenivasa, P.Ramesh Naidu,	Design of Software Engineering Approach's for	284
40	440	Naresh E, handrakala B M	web learning applications using Cloud Computing	200
48.	449	Bijaya Kumar Sethi, ebabrata	_	292
49.	458	Singh, Saroja Kumar Rout Raghavendra Naik, Shreepad Naik,	Neural Networks Design and Implementation of IoT Based	300
43.	430	Minal Salunke, Bunty jadhav,	Automated Railway Gate Crossing System	300
		Chandrashekharreddy Chavadi,	Automated Namway Gate Crossing System	
50.	464	Y. V. K. Durga Bhavani, V. B. Pagi	Physical Abuse Activity Recognition using	304
			Landmarks of Human Posture and DTW Classifier	
51.	465	Vani E S, K N Nithin Kumar, Keshav	Secured Delivery System Using Ethereum	310
		R Poojary, Praveen Naik	Blockchain Technology	

52.	497	Bojja Bala Sai Harsha Vardhan, Hitesh Paluvadi, Vasudha Karthikeya Sai Srihari, Rajesh C B	Groundnut Crop Disease Detection Using Learning Rate Annealing Methods	316
53.	498	Aravind Nuthalapati, Shafeena Karim A, Abubeker K M, Bushara A R	Internet of Things and Cloud Assisted LoRaWAN Enabled Real-Time Water Quality Monitoring Framework for Urban and Metropolitan Cities	323
54.	504	Savarala Chethana, Sreevathsa Sree Charan, Vemula Srihitha, D. Radha, Amudha J.	Autonomous Car Driving: Advanced Maneuvers Training	329
55.	506	Gayatri D. Londhe, Monica Gunjal, Amruta Thorat, Kailash Karad, Pramodkumar Kulkarni, Armaan Suhel Shaikh	Image Processing Detection System For Vehicle Overspeed	335
56.	514	Nagaraj Gadagin, Swati Sajjan, Shobha Hiremath, Girish Saunshi, Naveen N. M., Rajesh Y	Harnessing Data Science for Healthy Herds: Deep Learning for Cattle Disease Detection	342
57.	529	V.Saravanan, G. Bharath Reddy, Ankita Parida, K. Chandana, P.Chandrasekar, A. Madhan	Advancements in Battery Technology for Electric Vehicles: Integrating Machine Learning for Enhanced Performance	
58.	530	R. Arularasan, Rama Prabha K.P, R.Vinitha, T Praveena, Ezhil E Nithila, S. Ravi	Smart Irrigation: Enhancing Agricultural Efficiency with IoT-Connected Drones and Machine Learning	354
59.	532	N. Kishore Chandra Dev, S. Barani, S.Poornapushpakala, .Subramoniam	Congestion Detection of Vehicles using Vehicular Ad-Hoc Networks - VANETs	360
60.	537	Aljo E.T, Mohankumar N	Mitigating SAT Attack in IPs through Modified Weighted Logic Locking	366
61.	544	Ruchi Bhaskar, Bharat Choudhary, Rajesh Saha	An Efficient PFSCL based D-Latch Design Using Dynamic-Threshold Voltage MOSFET	371
62.	551	Prasanta Panda, Debaryaan Sahoo, Debarjun Sahoo	Advanced Predictive Modeling for Pneumonia Diagnosis to Revolutionize Healthcare with Transfer Learning	376
63.	556	Jeeshma T.N, Pargunarajan K	High-Speed Design Approaches for CCSDS LDPC Encoder Systems	382
64.	564	Archana Reddy P., Divya Jyothi G., Velumury Varshita, Chennupati Akshitha, D Radha	Modeling Plants vs Zombies Gameplay using Finite automata	387
65.	575	Anubhab Koley, Pratik Satpati, Ishika Choudhary, Jaydip Sen	An Investigation on the Efficiency of Some Text Attack Algorithms	394
66.	581	Suresh Kumar Jha, Vijay Shankar Sharma	Prediction of Parkinson desease using hybrid machine learning model for Healthcare Application	402
67.	585	Anubhav Mathur, Dipti Yadav, Jagendra Singh, Km Ikra, Haider Mohammed Abbas, Nishi Agarwal	Optimizing Supply Chain Management with Neural Network and Machine Learning Techniques	407
68.	590	Sumanth P Desai, Sanjay V Hanji, M M Munshi, P Chakradhar, Shreekant Naik, Sushil kumar Pare	Impact of outbound training on student engagement in management education: An Al based computer vision approach.	413
69.	600	M. N. Patil, S. M. Hattaraki, P. S. Ukkali, P. B. Rathod, D. D. Shatgar, P. B. Metri	Smart Anti-Theft Control System Using IoT	419

608	S.Rubeena Grace Tamilarasi, Aldrin G, G.Josemin Bala	Dam Monitoring and Alerting System in Real Time via Integrated IoT Platforms Using LoRaWAN Technology	424
611	Abhinav Kumar, Archana Sharma, Akshit Kumar Dhaka, Anuj Chhabra, Deepanshu Sardana	EVOTE: A Decentralized Blockchain – Based Electoral Platform for Upcoming Elections	429
612	P. Kanchanamala, RamPrasad Chippada, Tejasri Bennabatthula, Satish Muppidi	Al-Powered Alzheimer's Care: Smart Face Recognition, Medicine Reminders, and Location	438
621	Byrapureddy Sadhana, Damisetty Venkata Sai Revanth, Gidugu Bhavana Sri Anantha Lakshmi, Juturu Naga Sai Loknath	Optimizing Machine Learning Pipelines: Scalable Mobile-Based Tamil Sign Language Recognition	446
629	Vanishree D V, Prameela Kumari N	High- Speed Voltage Level Shifter Circuit using 45nm and 180nm MOSFETs with Variable Voltage Source	453
636	Pallab Banerjee, Vishal Prasad, Kanika Thakur, Dipra Mitra, Kumar Gaurav, Soumen Kanrar	Predictive Modeling and Dynamic Analysis of Price Trends in eCommerce using ML Technique	460
640	Goruganti Mahendra, B. Alekya Himabindu, S. Rambabu, A. Mouli Vardhan, G. Chandana Priya	Effective Ternary Full Adder Cells for Nanoelectronics Using CNTFET Technology	466
647	Davin Dsouza, R C Mala	A Comparative Study of Hall Sensor-based Trapezoidal and Sinusoidal Control on BLDC Using dsPIC33C	470
679	Sandeep Dhariwal, Reeba Korah, Mandeep M, B. Harshavardhan Reddy, M Gagan	Comparative Analysis of 4x4 Wallace Tree Multipliers at 45nm Node Technology	476
680	Basanagouda Ronad, Mallikarjun Bhirade, Vireshkumar Mathad, Mukta Bannur, Shivappa Sobarad, Suresh H. Jangamshetti	Dynamic Power Factor Correction using FC TCR — A Case Study of Academic Campus Distribution Network	481
683	Pujitha Basamsetty, Samitha	Medicine recognition from coversheet using VGG16 model	489
689	Akhilraj V. Gadagkar, Shifana Begum	VeriTrace: A Web3 Based Fake Product Identification System Using Blockchain	495
693	Md. Musab Haqqani, Ganesh B. Regulwar, Boinipally Ayush Goud, Sai Poojitha Veggalam, Kumavat Prakash, E.Ravi Kumar	Enhancing Remote Learning By Using Competitive Coding Platform	500
706	Chethana K, Malathi. S, Akshay S, Swetha K	Modelling and Simulation of Fiber Bragg Grating Sensors for Temperature and Pressure Measurements in Environmental Monitoring Stations	506
708	B Vinod Kumar, Aneesa Farhan M A	with the Cuckoo Search Algorithm for Reduced Energy Loss in Distribution Networks	511
709	Vasavi S, Venkata Sai Praneeth Polu, Bala Manikya Venkata Saketh Nandula	Detecting Suspicious Military Tents from Optical Images using Deep Learning Model	517
	611 612 621 629 636 640 647 679 680 683 689 693	611 Abhinav Kumar, Archana Sharma, Akshit Kumar Dhaka, Anuj Chhabra, Deepanshu Sardana 612 P. Kanchanamala, RamPrasad Chippada, Tejasri Bennabatthula, Satish Muppidi 621 Byrapureddy Sadhana, Damisetty Venkata Sai Revanth, Gidugu Bhavana Sri Anantha Lakshmi, Juturu Naga Sai Loknath 629 Vanishree D V, Prameela Kumari N 636 Pallab Banerjee, Vishal Prasad, Kanika Thakur, Dipra Mitra, Kumar Gaurav, Soumen Kanrar 640 Goruganti Mahendra, B. Alekya Himabindu, S. Rambabu, A. Mouli Vardhan, G. Chandana Priya 647 Davin Dsouza, R C Mala 679 Sandeep Dhariwal, Reeba Korah, Mandeep M, B. Harshavardhan Reddy, M Gagan 680 Basanagouda Ronad, Mallikarjun Bhirade, Vireshkumar Mathad, Mukta Bannur, Shivappa Sobarad, Suresh H. Jangamshetti 683 Pujitha Basamsetty, Samitha Kagitha, Prathyusha Nulu, Vasanthi Pinniboyina 689 Akhilraj V. Gadagkar, Shifana Begum 693 Md. Musab Haqqani, Ganesh B. Regulwar, Boinipally Ayush Goud, Sai Poojitha Veggalam, Kumavat Prakash, E.Ravi Kumar 706 Chethana K, Malathi. S, Akshay S, Swetha K	611 Abhinav Kumar, Archana Sharma, Akshit Kumar Dhaka, Anuj Chhabra, Deepanshu Sardana 612 P. Kanchanamala, RamPrasad Chippada, Tejasri Bennabatthula, Satish Muppidi 613 Byrapureddy Sadhana, Damisetty Venkata Sai Revanth, Gidugu Bhavana Sri Anantha Lakshmi, Juturu Naga Sai Loknath 629 Vanishree D V, Prameela Kumari N Juturu Naga Sai Loknath 629 Vanishree D V, Prameela Kumari N Juturu Naga Sai Loknath 629 Vanishree D V, Prameela Kumari N Kanika Thakur, Dipra Mitra, Kumar Gaurav, Soumen Kanrar 640 Goruganti Mahendra, B. Alekya Himabindu, S. Rambabu, A. Mouli Vardhan, G. Chandana Priya 647 Davin Dsouza, R C Mala 648 Basanagouda Ronad, Mallikarjun Bhirade, Vireshkumar Mathad, Mukta Bannur, Shivappa Sobarad, Suresh H. Jangamshetti 689 Akhilraj V. Gadagkar, Shifana Begum 690 M. M. Musab Haqqani, Ganesh B. Regulwar, Boinipally Ayush Goud, Sai Poojitha Veggalam, Kumavat Prakash, E.Ravi Kumar 691 Chethana K, Malathi. S, Akshay S, Swetha K 692 Vasavi S, Venkata Sai Praneeth Polu, Detecting Suspicious Military Tens from Optical 693 Vasavi S, Venkata Sai Praneeth Polu, Detecting Suspicious Military Tens from Optical 694 Vasavi S, Venkata Sai Praneeth Polu, Detecting Suspicious Military Tens from Optical

· · · · · · · · · · · · · · · · · · ·
s PMSM Drive with Adaptive 522
nication System for Paralytic 529
care Monitoring
Run Gameplay with Finite 534
ecomposition Methods and 540
NIFTY Index Prediction and
rithm for Effective Noise 547
ure Satellite for Remote 552
coring
mework for IoT Leveraging 559
on
with a machine learning 565
fety
and Battery Management 570
ehicle Applications
ystem in Industrial data 576
ne Learning Techniques