2022 International Conference on Distributed Computing, VLSI, **Electrical Circuits and Robotics** (DISCOVER 2022)

Shivamogga, India 14 – 15 October 2022



IEEE Catalog Number: CFP22F62-POD ISBN:

978-1-6654-8717-7

Copyright © 2022 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:
 CFP22F62-POD

 ISBN (Print-On-Demand):
 978-1-6654-8717-7

 ISBN (Online):
 978-1-6654-8716-0

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 Web: www.proceedings.com



	Content	Page No.
a.	Preface	viii
b.	About NES	xi
c.	About JNNCE	xiv
d.	Message from Patron - Sri. G. S Narayana Rao	xviii
e.	Message from Patron - Sri. S.N. Nagaraja	xix
f.	Message from the Chair Bangalore Section- Dr. P Deepa Shenoy	XX
g.	Message from the General Chair - Dr. Poornalatha G	xxi
h.	Message from the General Chair - Dr. K Nagendra Prasad	xxii
i.	Message from Program Chairs - Mohit P. Tahiliani, Poornima K. M., Ushadevi M. B., Vasudeva Acharya, Venugopala P. S.	xxiii

Sl. No.	Paper Title and Authors	Page No.
	TRACK: Distributed Computing	
1	A Prognostic Reasoning Model for Improving Areacanut Crop Productivity using Data Analytics Approach Rithesh Pakkala P., Shamantha Rai B.	1
2	ANN Based Weather Analysis and Prediction	7
_	Balaji N, Shreejan B Bhandary, Rodney Francis Dsouza, Karthik Pai B H	·
3	Identification of Toxicity in Multimedia messages for Controlling Cyberbullying on Social Media by Natural Language Processing	12
	Nithyashree V, Dr. Basavaraj N Hiremath, Vanishree L, Aparna Duvvuri, Disha Anand Madival, Vidyashree G	
4	Improving Soybean Disease Prediction by Performing Late-Stage Re-Training Using Fireworks Algorithm	19
	Angad Sandhu, Rajashree Krishna, Ishita Gaur	
5	Strong Baseline with Auto-encoder for Scale-Invariant Person Re-identification Shavantrevva Bilakeri, Karunakar A Kotegar	24
6	Text Summarization using NLP Technique Balaji N, Deepa Kumari, Bhavatarini N, Megha N, Sunil Kumar P, Shikha Rai A	30
7	Visualized Document Similarity Framework with the aid of Knowledge Graph	36
1	Prakhyath Rai, Shamantha Rai B	30
8	Voice Assisted Form Filling for the differently abled	40
	Shreya Sri Ramasubramanian, Sunit Koodli, Pranav S Nair, Mahah Sadique, Dr. Mamatha HR	

	TRACK: VLSI	
9	A Cascode Current Mirror Based 90 mV to 1.8 V Level Shifter with Alleviated Delay	45
	Divisha Jaisinghani, Shree Deeksha B, Aarthi U S, Kirti S. Pande,	
10	A Survey on Use Of FPGA In Automotive Systems	51
	Aishwarya G, Bhoomika Patil, Dr. Prashant V Joshi, Dr. K M Sudarsham, Krishnamurthy Vaidyanathan, Dr. Parag Parandkar, Allan Dsouza	
11	An optimized RISC-V processor with five stage pipelining using Tournament Branch Predictor for efficient performance	57
	Ananya Choudhury, Saroja V Siddamal, Jayashree Mallidu	
12	Comparison of Memristor Mathematical Model	61
	Sanjana N, Deepthi M S, Yajunath Kaliyath, Shashidhara H R	
13	Design of Asynchronous Circular FIFO Buffer for Asynchronous Network-on- Chips	66
	Suruchi Chaturvedi, M.N.Saranya, Rathnamala Rao	
14	Low power and area efficient AES implementation using ROM based key expansion and rotational shift	72
	Lokesh Polani, Karthi Balasubramanian, B Yamuna , Talluri Venkata Sai	
15	Open-source hardware: Different Approaches to Softcore implementation	76
	Sneha P Hiremath, Satyadhyan Chickerur, Joel S Dandin, Mihir Patil, Bhoomi Muddinkoppa, Shreerama A Adakoli	
16	Test Vector Generation and Sensitivity Analysis for Hardware Trojan Detection in Compact Rare Nodes	84
	Kavya Patel G S, Ramesh S R, Nirmala Devi M	
17	The Design and Implementation of Synchronous and Asynchronous NoC Router	90
	Chaitra S, Shruthi R, Shreyas S R, Dr Shashidhara H R	
18	Voltage-Gated Spin-Orbit Torque Magnetic Tunnel Junction model analysis	96
	Alla Srija, Vinod Kumar Joshi, Somashekara Bhat	
	TRACK: Communications	
19	Comparative Study of Reconfigurable Origami Antennas	102
	Shrustitha Jones, Nidhi Virupaxi, Pragathi Biradar, Pratik Badagavi, Sridhar Iyer	
20	Detection and Mitigation of Low and Slow DDoS attack in an SDN environment	106
	Sanjeetha R, A.N.H.Dhatreesh Sai, B.H.Tilak, N.Sai Sanjith, Padi Suhas	

21	DoA Detection Under Heavy Noise and Fading	112
	Feroz Morab, Dr. Rajeshwari Hegde, Dr. Veena Hegde	
22	ECC-based Authenticated Key-Agreement Algorithm using Time-stamps for IoD networks	118
	Snehal Samanth, Prema K V, Mamatha Balachandra	
23	Enhancing GPS Position Estimation Using Multi-Sensor Fusion and Error-State Extended Kalman Filter	124
	Aravind A, Ashwin V, Chandeep S, P S S S Yasaswi, R Gandhiraj, Shanmugha Sundaram G A	
24	Enhancing Security for IoT Devices using Software Defined Networking (SDN)	130
	Santosh Anand, Ganeshwari AN	
25	Performance Estimation in V2X Network	138
	H Srikanth Kamath, Bagamitha Kashyap	
26	Route establishment in MANETs; Ameliorated with Tunicate Swarm Algorithm and Cross layer Interaction	144
	Sadanand R. Inamdar, Jayashree I Kallibaddi	
27	Two Port Reflectionless Bandpass and Bandstop filter Design using Microstrip T-shaped and Coupled Line Structures for C-Band applications	150
	M N Sujatha, N S Harshini, M S Geetha, M Kaveri, Pavitra Chulaki	
	TRACK: Electrical Circuits	
28	A Comparative Study of Different MPPT Algorithms and Implementation of Single Axis Solar Tracker	156
	Harini R K, Hari Krishna J, Sneha A, Haneela Reddy A, R Jayabarathi	
29	Characterization of horticulture and general lighting- LEDs and Luminaires	162
	Sowmya R, Dr C P Kurian, Dr Narasimhan S	
30	Development of Electrical Parameters Measurement Device with IoT Functionality	166
	Mihir Ranjan, Anshuman Anand, Abhishek Srinivas Rao, Dr. Anjan N Padmasali	
31	Enhanced Time-to-Time Monitoring and Surveillance in Agriculture Warehouse for Diverse Harvest Crop Yields through IoT Gadget	172
	Rajesh G, Saroja B, Gurulakshmi A B, Ramalakshmi S Malladi	
	TRACK: Robotics	
32	A Novel Approach to Generate the Captions for Images with Deep Learning using CNN and LSTM Model	176
	Sudesh Rao, Santhosh S, Ms. Preethi Salian K, Chidananda T, Prathyakshini, Sandeep Kumar S	

33	A Novel Technique to Mathematically Represent the Human Knee Dynamics through the Application of the Integral Concept	180
	Sithara Mary Sunny	
34	Person Attribute Recognition using Hybrid Transformers for Surveillance Scenarios	186
	Abhilash SK, Nookala Venu Madhav	
35	Sarcasm Detection in English Text using Tweets and Headlines	192
	Prajwal K Naik, Snigdha S Chenjeri, Sruthy S, Dr. Mamatha H R	
36	VLSI Implementation of Neural Network Based Emergent Behavior Model for Robot Control	197
	Jimmy Patel, Harsh Advani, Subhadeep Paul, Tapas Kumar Maiti	
	TRACK: Healthcare	
37	A Survey on Artificial Intelligence-based Lung Tumor Segmentation and Classification	201
	Chandrakantha T S, Basavaraj N Jagadale, Madhuri G R	
38	A Vison Based Lane Detection Approach Using Vertical Lane Finder Method	207
	Vidya Sagar S. D., Prabhakar C. J.	
39	Adaptive Filter for the Removal of Baseline Wander and Detection of Pulse Event in Wrist Pulse Acquisition using Piezoresistive Pressure Sensors	212
	Dr. Sukesh Rao M., Mr. Sanith C Bangera, Dr. Narendra K C, Dr. Adithi K	
40	AI-enabled Clinical Decision Support System	217
	Vasudeva Rao P V, Kanmani, Ashwija, Kavana Tilak S K, Brinda Kulal, Jyothika R S	
41	An experimental study on modification of oxygen concentrator components for better purity	223
	Tarun Nair, M. E. Harikumar	
42	Classification of Stress in Students using Machine Learning Algorithms	229
	Apoorva Rao B, Mr. Vasudeva Rao P V, Harshitha, Neha S, Shruthi S Thingalaya	
43	Comparative analysis of active contour random walker and watershed algorithms in segmentation of ovarian cancer	234
	Ruchitha P J, Sai Richitha Y, Ashwini Kodipalli, Roshan Joy Martis, Santosh Dasar Taha Ismail	
44	Comparative Analysis of Machine Learning Algorithms for Disease Detection in Apple Leaves	239
	Andhavaram Mohan Sai, Nagamma Patil	

Kishnaraj Chadaga, Srikanth Prabhu, Vivekananda Bhat K, Niranjana Sampathila, Shashikiran Umakanth, Rajagopala Chadaga Deep Learning approaches to determine Gender based on Digital bones of skeleton: A Survey Janardhan C N, Jayanna H S Human Action Recognition by Concatenation of Spatio-Temporal 3D SIFT and CoHOG Descriptors using Bag of Visual Words Divya Rani R, Prabhakar C J Improving the Performance of Sleep Apnea Screening System using Wavelets and Bottleneck Feature Fusion Srinidhi C, C Santhosh Kumar, Mrudula G B Microfluidic analysis of micro needle array for drug delivery applications D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction Pallavi Singh S, Lavanya P, Nirmala M B, Madhusudan R, Nikhil B S	245
skeleton: A Survey Janardhan C N, Jayanna H S Human Action Recognition by Concatenation of Spatio-Temporal 3D SIFT and CoHOG Descriptors using Bag of Visual Words Divya Rani R, Prabhakar C J Improving the Performance of Sleep Apnea Screening System using Wavelets and Bottleneck Feature Fusion Srinidhi C, C Santhosh Kumar, Mrudula G B Microfluidic analysis of micro needle array for drug delivery applications D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
 Human Action Recognition by Concatenation of Spatio-Temporal 3D SIFT and CoHOG Descriptors using Bag of Visual Words Divya Rani R, Prabhakar C J Improving the Performance of Sleep Apnea Screening System using Wavelets and Bottleneck Feature Fusion Srinidhi C, C Santhosh Kumar, Mrudula G B Microfluidic analysis of micro needle array for drug delivery applications D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction 	251
CoHOG Descriptors using Bag of Visual Words Divya Rani R, Prabhakar C J Improving the Performance of Sleep Apnea Screening System using Wavelets and Bottleneck Feature Fusion Srinidhi C, C Santhosh Kumar, Mrudula G B Microfluidic analysis of micro needle array for drug delivery applications D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
 Improving the Performance of Sleep Apnea Screening System using Wavelets and Bottleneck Feature Fusion <i>Srinidhi C, C Santhosh Kumar, Mrudula G B</i> Microfluidic analysis of micro needle array for drug delivery applications <i>D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram</i> Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India <i>Rashmi P Shetty, Srinivasa P Pai</i> Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem <i>Aishwarya Balakrishman, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan</i> Prediction of foot risk classification for Type II Diabetic through image analysis <i>Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya</i> Prediction of Heart Disease using Computational Algorithms <i>Shobha V, Smitha C, Ashwini Kodipalli</i>	255
and Bottleneck Feature Fusion Srinidhi C, C Santhosh Kumar, Mrudula G B 49 Microfluidic analysis of micro needle array for drug delivery applications D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram 50 Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai 51 Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishman, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan 52 Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya 53 Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli 54 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK 55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
 Microfluidic analysis of micro needle array for drug delivery applications D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya,	261
D.Lingaraja, Dr. S. Praveen kumar, T Aravind, T K Srinivasan, S Ramya, G Dinesh Ram Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
 G Dinesh Ram Online Sequential Extreme learning machinebased hybrid model for forecasting of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction 	266
of COVID19 cases in India Rashmi P Shetty, Srinivasa P Pai 51 Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan 52 Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya 53 Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli 54 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK 55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
51 Parkinson's Disease Stage Classification with Gait Analysis using Machine Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan 52 Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya 53 Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli 54 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK 55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	271
Learning Techniques and SMOTE-based Approach for Class Imbalance Problem Aishwarya Balakrishnan, Dr. Jeevan Medikonda, Pramod K Namboothiri, Manikandan Natarajan 52 Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya 53 Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli 54 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK 55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
 Manikandan Natarajan Prediction of foot risk classification for Type II Diabetic through image analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction 	277
analysis Mehewish, Mamatha Balachandra, Narendra V G, Arun G Maiya 53 Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli 54 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK 55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
53 Prediction of Heart Disease using Computational Algorithms Shobha V, Smitha C, Ashwini Kodipalli 54 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK 55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	282
Shobha V, Smitha C, Ashwini Kodipalli Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
 Scalable, Cost Effective IoT Based Medical Oxygen Monitoring System for Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction 	287
Resource Constrained Hospital Environment Joel Rodrigues, Chandra Shekar RK Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	
55 Securing Healthcare Data With Blockchain For Diabetic And Cardio Disease Prediction	293
Prediction	
Pallavi Singh S. Lavanya P. Nirmala M.R. Madhusudan R. Nikhil R.S.	299
T anavi Singh S, Lavanya I , Ivirmala M B, Maanasaaan K, Ivikhii B S	

56	Statistical Analysis of Deep Learning Models for Diabetic Macular Edema Classification using OCT Images	305
	Pavithra K C, Preetham Kumar, Geetha M, Sulatha Bhandary	
57	Sub-Axial Vertebral Column Fracture CT Image Synthesis by Progressive Growing Generative Adversarial Networks (PGGANs)	311
	Sindhura D N, Radhika M Pai, Shyamasunder N Bhat, Manohara Pai M M	
58	SWARM: Sanitizer With Attendance through Remote Monitoring	316
	Sai Anish Malla, Khushee Kapoor, Adithya Kejariwal, Dr. Vidya Rao, Dr. Poornima Panduranga Kundapur	
59	Tracing and decoding of covert phonemes using single channel Electroencephalogram with Machine Learning Techniques	320
	Varalakshmi Perumal, Jeevan M	