# 2nd International Conference on Recent Trends in Advanced Computing 2019 (ICRTAC 2019)

Procedia Computer Science Volume 165

Chennai, India 11 – 12 November 2019

## **Editors:**

P. Nithyanandam

R. Parvathi

R. Jagadeesh Kannan

A. Nayeemulla Khan

ISBN: 978-1-7138-0758-2

### Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2019) The Authors. Published by Elsevier Ltd. Creative Commons Attribution 4.0 International License. License details: http://creativecommons.org/licenses/by/4.0/.

No changes have been made to the content of these proceedings. There may be changes to pagination, and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2021)

For permission requests, please contact the publisher:

Elsevier B.V. Radarweg 29 Amsterdam 1043 NX The Netherlands

Phone: +31 20 485 3911 Fax: +31 20 485 2457

http://www.elsevierpublishingsolutions.com/contact.asp

### Additional copies of this publication are available from:

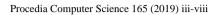
Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

### Available online at www.sciencedirect.com

# **ScienceDirect**





# Table of Contents

Preface	
Privacy Preservation and Signature Aggregation for Medical Data Ketan Atri, Yash Mahesh Bangera, Vishwas S. Deshmukh, and Vaidehi Vijayakumar	2
An efficacious intellectual framework for host based intrusion detection system  D. Selvamani, and V. Selvi	Ģ
Digital Twin of an Automotive Brake Pad for Predictive Maintenance P.K. Rajesh, N. Manikandan, C.S. Ramshankar, T. Vishwanathan, and C. Sathishkumar	18
LiFi for Vehicle to Vehicle Communication – A Review Rahul George, Srikumar Vaidyanathan, Amandeep Singh Rajput, and K Deepa	25
Region Driven Remote Sensing Image Captioning S Chandeesh Kumar, M Hemalatha, S Badri Narayan, and P Nandhini	32
Custom Block Chain Based Cyber Physical System for Solid Waste Management Ayush Thada, Uday Karan Kapur, Saif Gazali, Nikhil Sachdeva, and S Shridevi	41
Real Time Feature Point Detectors for Determining Ego Motions  K. Sivamani, B. Sharmila, and D. Nedumaran	50
Classification of Abnormal Masses in Ultrasonic Elastography Breast Images Shirley Selvan, Shenbaga Devi S, and Suresh S	57
Classification of Neurodegenerative Disease Stages using Ensemble Machine Learning Classifiers M. Rohini, and D. Surendran	66
Fake News Detection using Bi-directional LSTM-Recurrent Neural Network Pritika Bahad, Preeti Saxena, and Raj Kamal	74
Local bit plane adjacent neighborhood dissimilarity pattern for medical CT image retrieval  Rakcinpha Hatibaruah, Vijay Kumar Nath, and Deepika Hazarika	83
Household Energy Management Model to Maximize Solar Power Utilization Using Machine Learning M Gautam, Siram Raviteja, and R. Mahalakshmi	90
A Contemporary Research on Perceptual Expert System for Medical Diagnosis through Neural Dust Sensor  A. Joshuva, Bhavya Lingampalli, Pavan Kalyan Lingampally, M. Arjun, and V.A. Shridhar	97
A Review of Dimensionality Reduction Techniques for Efficient Computation  S. Velliangiri, S. Alagumuthukrishnan, and S Iwin Thankumar joseph	104
Symmetric Measure of Network Traffic using Packet Ratio and Packet Symmetry  B.S. Kiruthika Devi, K. Dudeja, A.V. John, K. Marcin, and T. Subbulakshmi	112
Characterizing the Outlying Feature Set of Groups Haiyang Xia, Huy Quen Vu, Jianlong Tan, Xiao Li, and Gang Li	119

iv Contents

Arathi Reghukumar, and Vaidehi Vijayakumar	126
Multi Criteria based Resource Score Heuristic for Cloud Workflow Scheduling S Chitra.	136
Exploration of Autism Spectrum Disorder using Classification Algorithms B Deepa, and K.S JeenMarseline	143
EWPTNN: An Efficient Workload Prediction Model in Cloud Computing Using Two-Stage Neural Networks  K. Dinesh Kumar, and E. Umamaheswari.	151
Personalized Review Selection Ye Lei, Ziwei Hou, Haiyang Xia, Jianlong Tan, Xiao Li, Muhmmad Al-Khiza'ay, and Gang Li	158
Image Contrast Enhancement by Homomorphic Filtering based Parametric Fuzzy Transform Syed Zaheeruddin, and K. Suganthi	166
Brain Tumor Detection from Multimodal MRI Brain Images using Pseudo Coloring Processes T. Kalaiselvi, P. Kumarashankar, P. Sriramakrishnan, and S. Karthigaiselvi	173
Multiple Sub-Filter Adaptive Noise Canceller for Fetal ECG Extraction  Jaba Deva Krupa Abel, Dhanalakshmi Samiappan, R Kumar, and S Pravin Kumar	182
IoT Device for Disabled People  B. Shubankar, Mallika Chowdhary, and M Priyaadharshini	189
Certain Investigation on MANET Security with Routing and Blackhole Attacks Detection  Jaikumar Vinayagam, CH. Balaswamy, and K. Soundararajan	196
Statistical Measurements of Multi Modal MRI – PET Medical Image Fusion using 2D – HT in HSV color Space  Maruturi Haribabu, and Velmathi Guruvaiah.	209
Sketch based image retrieval using grid approach on large scale database G.G Rajput, Prashantha	216
Automated Dispute Resolution System (ADRS) – A Proposed Initial Framework for Digital Justice in Online Consumer Transactions in India Ayyappan Palanissamy, and R. Kesavamoorthy	224
IoT based Voice/Text Controlled Home Appliances S Uma, R. Eswari, R Bhuvanya, and Gopisetty Sai Kumar	232
Pathological Myopia Image Analysis Using Deep Learning Jaydeep Devda, and R. Eswari	239
Analysis of Twitter Specific Preprocessing Technique for Tweets  Dharini Ramachandran, and R Parvathi	245
A Deep Neural Network Framework for Road Side Analysis and Lane Detection Utkarsh Shukla, Ayush Mishra, S Graceline Jasmine, V Vaidehi, and Subramaniam Ganesan	252
IoT based Assistive Device for Deaf, Dumb and Blind People A Karmel, Anushka Sharma, Muktak pandya, and Diksha Garg	259
Error Detection of Data Conversion in Flash ADC using Code Width Based Technique M Senthil Sivakumar, T Gurumekala, and Sruthi Pulya	270

Contents

resources targeting smart energy management  P. Sharmila, J. Baskaran, C. Nayanatara, and R. Maheswari	278
Telemedicine Setup using Wireless Body Area Network over Cloud R Latha, P Vetrivelan, and S Geetha	285
Diabetes Prediction using Machine Learning Algorithms Aishwarya Mujumdar, and V Vaidehi	292
Two Three Step Authentication in ATM Machine to Transfer Money and for Voting Application K. Sudharsan, V.D. Ambeth Kumar, R Venkatesan, V. Sathyapreiya, and G. Saranya	300
Deep Learning Based Automated Attendance System  J Joshan Athanesious, Vanitha, S. Adithya, C. Anirudh Bhardwaj, Jugat Singh Lamba, and  A.V. Vaidehi	307
Performance Evaluation of Area-Based Segmentation Technique on Ambient Sensor Data for Smart Home Assisted Living  R. Kavitha, and Sumitra Binu	314
Low Cost IoT Based Air Quality Monitoring Setup Using Arduino and MQ Series Sensors With Dataset Analysis Kinnera Bharath Kumar Sai, Subhaditya Mukherjee, and H Parveen Sultana	322
Secure Hash Authentication in IoT based Applications Nishant Sharma, H Parveen Sultana, Rahul Singh, and Shriniwas Patil	328
Image Segmentation in Constrained IoT Servers Nishant Sharma, H Parveen Sultana, Rahul Singh, Shriniwas Patil, and Sumit Pareek	336
Hypergraph Learning for Fundamental Shape Detection Shalini Ramanathan, and Mohan Ramasundaram	343
Performance Analysis of Distributed and Federated Learning Models on Private Data Kunal Chandiramani, Dhruv Garg, and N Maheswari	349
An Efficient Sentiment Analysis Approach for Product Review using Turney Algorithm P. Rajesh Kanna, and P. Pandiaraja	356
A Modified Priority Preemptive Algorithm for CPU Scheduling Kunal Chandiramani, Rishabh Verma, and M Sivagami	363
Comparative Study of different Lazy Learning Associative Classification Methods Preeti Tamrakar, and SP Syed Ibrahim	370
Analysis of Classifiers for Fake News Detection Vasu Agarwal, H. Parveen Sultana, Srijan Malhotra, and Amitrajit Sarkar	377
Handwriting Analysis based on Histogram of Oriented Gradient for Predicting Personality traits using SVM  Aditya Chitlangia, and G. Malathi	384
Improved Method for Enhancing Dark Images based on CLAHE and Morphological Reconstruction R.A. Manju, G. Koshy, and Philomina Simon	391
Start to Finish Automation Achieve on Cloud with Build Channel: By DevOps Method V. Arulkumar, and R. Lathamanju	399
Implementing smart swapping algorithm to boost the performance of Linux PC's.  Shivam Sharma, and S.A. Sajidha	406

vi Contents

Big Data Performance Analysis on a Hadoop Distributed File System Based on Geometric Data Perturbation Technique V. Santhana Marichamy, and V. Natarajan	415
REMOVING RF VULNERABILITIES FROM IOT DEVICES Pranab Ray, H Parveen Sultana, and Sushmita Ghosh	421
Diagnosis of Parkinson's disease using Gait Dynamics and Images R S Nancy Noella, Divyansh Gupta, and J Priyadarshini	428
Smart Metro Rail Ticketing System  M Abhishek Nair, Smit Taunk, Panyam Gangadhar Reddy, and H Parveen Sultana	435
Image Dehazing using Improved Dark Channel Prior and Relativity of Gaussian  M Kokila Das, P Dinulal, G Koshy, and Philomina Simon	442
Weather Prediction Model using Savitzky-Golay and Kalman Filters Sivagami, A Vaishali, Ramya Ramakrishnan, and A Subasini	449
Towards User Profiling From Multiple Online Social Networks  B. GayathriDevi, and V. Pattabiraman	456
An Image Encryption Algorithm Based On Fractal Geometry  V. Sangavi, and P. Thangavel	462
Diabetics Retinopathy Vision Analysis using Image Identification Service Analysis Approach M. Alamelu, R. Balaji1, J. Mithun, and M. Hariharan	470
Hybrid Segmentation and Feature Extraction Approach to Detect Tumour Based on Fuzzy Rough-in Mammogram Images  M Punitha, and K Perumal	478
Implicit Aspect Extraction for Sentiment Analysis: A Survey of Recent Approaches  Vaishali Ganganwar, and R. Rajalakshmi	485
Automated Goal Score Detection in Football Match Using Key Moments Radha Penumala, M. Sivagami, and Suresh Srinivasan	492
Plant disorder precognition by image based pattern recognition P Varalakshmi, and S Aravindkumar	502
Embedded Bi-directional GRU and LSTMLearning Models to Predict Disasterson Twitter Data A. Bhuvaneswari, J. Timothy Jones Thomas, and P. Kesavan	511
The Qualitative Study on Input – Output Channel Configurations in Wireless Body Area Network Savita Sindhu, Shruti Vashist, V.R. Singh, and Amit Kumar Tyagi	517
Fast and Area Efficient Implementation of RSA Algorithm Sheba Diamond Thabah, Mridupawan Sonowal, Rekib Uddin Ahmed, and Prabir Saha	525
Design of New Multi-Column 5,5:4 Compressor Circuit Based on Double-Gate UTBSOI Transistors Rekib Uddin Ahmed, Sheba Diamond Thabah, and Prabir Saha	532
A Mean Model Based Incremental Learning Technique for Extreme Learning Machine  M Vidhya, and S Aji	541
Effective Diagnosis of Alzheimer's Disease using Modified Decision Tree Classifier  S. Naganandhini, and P. Shanmugavadivu	548
Automatic Determination of K in Distributed K-Means Clustering Dinesh Kumar Kotarya, and Satyasai Jagannath Nandaa	556
Intrusion Detection for Enhancing RPL Security  Deepali Bankatsingh Gothawal, and S.V. Nagarai	56 <del>°</del>

Contents vii

Santosh Anand, and Somnath Sinha
Computational Analysis of Breast Cancer Sequences using Next Generation Sequencing Methods in Julia Babymol Kurian, and V.L. Jyothi
BLE Bluetooth Beacon based Solution to Monitor Egress of Alzheimer's Disease Sufferers from Indoors D. Surendran, and M. Rohinia
MLPPT-MHS: Multi-Layered Privacy Preserving and Traceable Mobile Health System  A. Divya Preetha, and T.S. Pradeep Kumar
Renewable Energy Based Smart Irrigation System N Sudharshan, AVS Kasturi Karthik, JS Sandeep Kiran, and S. Geetha
Image-Based Smart Surveillance and Remote Door Lock Switching System for Homes  Jay Patel, Sundar Anand, and Rohan Luthra
Credit Card Fraud Detection using Machine Learning Algorithms  Vaishnavi Nath Dornadula, and S Geetha
A Genetic Algorithm for the Snake-in-the-Box Problem using Modified Edge Recombination  Rashmi K A, and B Kalpana
Medical Cyber Physical Systems and Its Issues Meghna Manoj Nair, Amit Kumar Tyagi, and Richa Goyal
Design of a Smart Safety Device for Women using IoT Wasim Akram, Mohit Jain, and C. Sweetlin Hemalatha
Tweedle: Sensitivity Check in Health-related Social Short Texts based on Regret Theory R Geetha, S Karthika, N Pavithra, and V Preethi
Implementation Topology of Full Adder Cells  Rekib Uddin Ahmed, and Prabir Saha
#CycloneGaja – Rank based Credibility Analysis System in social media during the crisis P. Suthanthira Devi, and S. Karthika
Optimized Feature Integration and Minimized Search Space in Content Based Image Retrieval LK Pavithra, and T Sree Sharmila
Video Traffic Analysis over LEACH-GA routing protocol in a WSN  M. Radhika, and P. Sivakumar
KBR: Knowledge Based Reduction Method for Virtual Machine Migration in Cloud Computing R Bhaskar, and B S Shylaja
AI-Based Enhancement of Base Station Handover  V. Kavitha, G. Manimala, and R. Gokul Kannan
Improvement of Crop Production Using Recommender System by Weather Forecasts  S. Bangaru Kamatchi, and R. Parvathi
Identification of Network Intrusion in Network Security by Enabling Antidote Selection R.M. Gomathi, and M. Nithya
Cognitive Learning Based Missing Value Computation in Cardiovascular Heart Disease Prediction Data M.D. Anto Praveena, and B. Bharathi
Contour Detection based Ear Recognition for Biometric Applications  N Mangayarkarasi, G Raghuraman, and A Nasreen

viii Contents

Object Detection In Underwater Acoustic Images Using Edge Based Segmentation Method R. Priyadharsini, and T. Sree Sharmila	759
Secured Reversible matrix embedding based on dual image using Integer wavelet and Arnold Transform Amishi Mahesh Kapadia, and P. Nithyanandam	766
Entropy Analysis on Planar Anamorphic Images S Bobby Stefy Chris, L K Pavithra, R Srinivasan, and T Sree Sharmila	774
Eye Blink Detection Using Back Ground Subtraction and Gradient-Based Corner Detection for	
Preventing CVS	
T Sree Sharmila, R Srinivasan, K K Nagarajan, and S Athithya	781