## 2020 Advanced Computing and Communication Technologies for High Performance Applications (ACCTHPA 2020)

Cochin, India 2 – 4 July 2020



**IEEE Catalog Number: ISBN:** 

CFP20W35-POD 978-1-7281-6454-0

## Copyright © 2020 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:
 CFP20W35-POD

 ISBN (Print-On-Demand):
 978-1-7281-6454-0

 ISBN (Online):
 978-1-7281-6453-3

## **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



## Table Of Contents

Deepnet For Detecting Analyzable Metaphases	
Remya R S, Dr. Hariharan S, Sooraj M, Keerthi V, Abhijith S Raj And Dr. Gopakumar C	1
Ear-biometric For Human Identification	
Shruti Nikose And Hemant Meena	8
Study Of Evolution By Automating Hardy Weinberg Equilibrium With Machine	
Learning Techniques In Tensorflow And Keras	
Karthika Balan, Michael Santora, Mariam Faied And Victor D. Carmona-galindo	14
Computational Investigation Of Arjunarishta Formulation Using Module-network	
Analysis	
Mahija K C, Stanzin Kadol And Abdul Nazeer K A	20
Comparison Of Deep Neural Networks For Reference Evapotranspiration Prediction Using Minimal Meteorological Data	
M.R. Sowmya, M.B. Santosh Kumar And Sooraj K. Ambat	27
Multi-soft Set Based Approach For Rule Based Classification Using Sequential	
Covering Algorithm	
Santhosh Kottam And Dr. Varghese Paul	34
A Novel Simplified Approach For Text Line Extraction Of Handwritten Malayalam	
Document	
P.V Pearlsy And Deepa Sankar	43
Reverse Principal Component Analysis For Multi-output Regression	
Akshit Bhalla	49
AI Based Indigenous Medicinal Plant Identification	
Anu Paulson And Ravishankar S	57
An Efficient Cloud Ranking Protocol For User Service Selection Using Fuzzy Logic	
Anupama Mishra, A K Daniel	64
Evaluation Of Factors Affecting Compressive Strength Of Concrete Using Machine	
Learning	
Avinash Kumar Jha, Surabhi Adhikari, Surendrabikram Thapa, Abhay Kumar, Arunish	
Kumar And Sushruti Mishra	70
A Social Network Analysis Of The Malayalam Novel Balyakalasakhi	
Akhil Unnikrishnan, Arjun K, Kannan Balakrishnan And Mohammed Shameem	75
A Study On The Significance Of Smart IoT Sensors And Data Science In Digital	
Agriculture	
Neenu Johnson, Dr.Santosh Kumar M.B And Dr. Dhannia T	80
A Proposed Design Of Conventional 4-bit Carry Look-ahead Adder Improving Performance	
Muhamamd Saddam Hossain And Farhadur Arifin	89
Study On Impact Of RNN, CNN And HAN In Text Classification	
Nismi Mol E A And Santosh Kumar M B	94

A Study On Using Private-permissioned Blockchain For Securely Sharing Farmers Data	
Alfin Abraham And Santosh Kumar M.B	103
An Enhanced Round Robin (Err) Algorithm For Effective And Efficient Task	
Scheduling In Cloud Environment.	105
Sanaj M S And Joe Prathap P M	107
Sentiment Analysis And Classification On Twitter Spam Account Dataset	111
Gaurav Shetty, Ashwin Nair, Pradyumna Vishwanath And Ahuja Stuti	111
An Improved Upper Bound For Genome Rearrangement By Prefix Transpositions	116
Pramod P Nair And Rajan Sundaravaradhan	115
Digital Twin In Smart Farming : A Categorical Literature Review And Exploring Possibilities In Hydroponics	
Sreedevi T R And Dr.Santosh Kumar M.B	120
Face Depth Estimation And 3-d Reconstruction	120
Amal Dinesh, Alba Terese Baby, Amal Joseph, Aleesha Andrews And Anjusree V K	125
Eye Movement Classification Using CNN	14,
Milu Prince, Neha Santhosh, Nimitha Thankachan, Reshma Sudarsan And Anjusree V.K	138
Development Of Web And Mobile Application Based Online Buy, Sell And Rent Car	150
System	
Shakhawat Hossain Mahi, Umme Habiba Maliha And Sadman Sakib	143
An Interactive Tele-medicine System Via Android Application	
Samsul Arefin Riffat, Fatma Harun And Tanvir Hassan	148
Decision Tree Approach To Identify Vision Disorder For Lazy Eye	
Pawan Kumar Pant, Devendra Singh, Himanshu Pant And Ayush Kapri	153
Web Text Content Credibility Analysis Using Max Voting And Stacking Ensemble	-22
Classifiers	
Priyanka Meel, Puneet Chawla, Sahil Jain And Utkarsh Rai	157
A University Admission Prediction System Using Stacked Ensemble Learning	
Sashank Sridhar, Siddartha Mootha And Santosh Kolagati	162
Framework For Cloud Based Messaging System Using MQTT	
Jay Patil, Jairaj Bhiste, Dipti Pawar And Mohandas Pawar	168
An Hybrid Approach Using Ant Colony Optimization And Binary Particle Swarm	
Optimization (Aco: Bpso) For Energy Efficient Multi-path Routing In Manet	
Valanto Alappatt And Joe Prathap P M	175
A Deep CNN Technique For Detection Of Breast Cancer Using Histopathology	
Images.	
Gitanjali Wadhwa And Amandeep Kaur	179
Comprehensive Study On Sentiment Analysis: Types, Approaches, Recent	
Applications, Tools And Apis	
Binju Saju, Siji Jose And Amal Antony	186
Saarthi : Real-time Monitoring Of Patients By Wearable Device	
Priya Rl, Anish Vaidya, Mohit Thorat, Vinit Motwani And Chetas Shinde	194
	-/1

Sentiment Analysis For Predicting Customer Reviews Using A Hybrid Approach	
Rajeswari A.M, Mahalakshmi M, Nithyashree R And Nalini G	200
Predicting Human Activity From Mobile Sensor Data Using CNN Architecture	
Krishnaprabha K K And Dr.Raju C K	206
A Hybrid Feature Selection Approach Using Artificial Bee Colony And Genetic	
Algorithm	
Bindu M G And Sabu M K	211
Morphological Operators On Hypergraphs For Colour Image Processing	
Bino Sebastian, Nuja Unnikrishnan, Neenu Sebastian And Rosebell Paul	217
Evaluation Of Inpainting In Speckled And Despeckled 2d Ultrasound Medical Images	
Deepthy Mary Alex And D. Abraham Chandy	221
Performance Analysis Of 1-bit Full Adder Using Adiabatic ECRL Technique	
Pravitha B, Vishnu D And Shabeer S	226
Smart Servomotor For Robotics And Its Cybersecurity.	
Kishore Eswaran, Sunil Sai Kumar, Deepa Thangavelusamy And Vinodharani Murugadoss	231
Computer-aided Diagnosis Of Thyroid Nodule From ultrasound Images Using	
Transfer Learning From Deep Convolutional Neural Network Models	
Ajilisa O A, Jagathyraj V P And Sabu M K	237
Effects Of Preprocessing On The Quantification Of Cerebral Blood Flow From	
Arterial Spin Labeling MRI	
Shyna A, Dr. Usha Devi Amma C, Dr. Ansamma John And Athira B	242
Multimodal MRI Based Classification And Prediction Of Alzheimer's Disease Using	
Random Forest Ensemble	
Thushara A, Ushadevi Amma C, Ansamma John And Reshma Saju	249
Optimal Path Length For Octagon-cell Interconnection Networks: Fundamental Theorems With Proofs	
Sanjukta Mohanty And Prafulla Kumar Behera	257
GAN Based Photo-realistic Image Generation From Sketch Using Nested U-net	
Thivagar Mahendran And Sharmilan S	274
Score Level Based Fusion Method For Multimodal Biometric Recognition Using	
Palmprint And Iris	
Chandny Ramachandran And Deepa Sankar	281
A Comprehensive Study On Convolutional Neural Networks For Chromosome	
Classification	
Remya R S, Dr. Hariharan S, Vishnu Vinod, David John W Fernandez, Muhammed Ajmal N M And Dr. Gopakumar C	287
Inverse Synthetic-aperture Radar(Isar) Images Recognition Using Deep Learning	
Abhishek Avadhani, Sayli Chaudhari, Pehlaj Gacheria And Stuti Ahuja	293