

2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE 2020)

**Gold Coast, Australia
16 – 18 December 2020**



**IEEE Catalog Number: CFP20V34-POD
ISBN: 978-1-6654-2991-7**

**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:	CFP20V34-POD
ISBN (Print-On-Demand):	978-1-6654-2991-7
ISBN (Online):	978-1-6654-1974-1

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

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

USER PERSPECTIVE ON USAGES AND PRIVACY OF EHEALTH SYSTEMS IN BANGLADESH: A DHAKA BASED SURVEY	1
<i>Biplob Ray; Kamal Kumar Saha; Milon Biswas; Md Mahbubur Rahman</i>	
CLASSIFICATION ALGORITHM OF SHIP TRAJECTORY BASED ON MACHINE LEARNING TECHNIQUES.....	6
<i>Haocheng Wang; Yi Zuo; Tieshan Li; Zhenyu Wang</i>	
TOWARDS AN ANALYTICAL PROBE FOR TWITTER INFORMATION FLOW MICRO-STRUCTURE.....	13
<i>Monaheng Ramokhoro; Pheello Maboea; Tresia Holtzhausen; Phumlani Nhlanganiso Khoza</i>	
AIDING SPEECH THERAPY USING AUDIO AND VIDEO PROCESSING	22
<i>Anant Gaodida; Harshitha Koppisetty; Kanak Potdar; Ameyaa Biwalkar</i>	
AUTISM SPECTRUM DISORDER DETECTION IN TODDLERS FOR EARLY DIAGNOSIS USING MACHINE LEARNING.....	27
<i>Shirajul Islam; Tahmina Akter; Sarah Zakir; Shareea Sabreen; Muhammad Iqbal Hossain</i>	
STUDENT BACKGROUND: AN INVALUABLE PLAYER FOR ACADEMIC SUCCESS.....	33
<i>Sarnesh Deo; Kaylash Chaudhary; Bibhya Sharma</i>	
CRYPTANALYSIS OF VIGENÈRE CIPHER: METHOD IMPLEMENTATION.....	39
<i>Aiman Al-Sabaawi</i>	
THE EVOLVING ARCHITECTURE OF A NATIONAL PLATFORM FOR URBAN RESEARCH IN AUSTRALIA	43
<i>Richard O. Sinnott; Luca Morandini; Christopher Bayliss; Philip Greenwood; Ghazal Karami; Hossein Pursultani</i>	
SECURITY TESTING OF ANDROID BASED COVID TRACER APPLICATIONS	49
<i>Narmada Kohli; Mahsa Mohaghegh</i>	
ANALYSIS OF ANDROID SWAPPING OVERHEAD AND IMPLICATION OF NVM-BASED ACCELERATION.....	55
<i>Hyokyung Bahn; Jisun Kim</i>	
BANGLA SIGN LANGUAGE RECOGNITION AND SENTENCE BUILDING USING DEEP LEARNING.....	61
<i>Safayet Anowar Shurid; Khandaker Habibul Amin; Md. Shahnawaz Mirbahar; Dolan Karmaker; Mohammad Tanvir Mahtab; Farhan Tanvir Khan; Md. Golam Rabiul Alam; Md. Ashrafal Alam</i>	
EVENT-DRIVEN LSTM FOR FOREX PRICE PREDICTION.....	70
<i>Ling Qi; Matloob Khushi; Josiah Poon</i>	
BIOMARKER CA125 FEATURE ENGINEERING AND CLASS IMBALANCE LEARNING IMPROVES OVARIAN CANCER PREDICTION.....	76
<i>Xiaoyan Yang; Matloob Khushi; Kamran Shaukat</i>	
A NOVEL APPROACH USING DEEP NEURAL NETWORK VESSEL SEGMENTATION & RETINAL DISEASE DETECTION	82
<i>Nancy Kaur; Girija Chetty; Lavneet Singh</i>	
CLASSIFICATION OF BLOCKCHAIN BASED VOTING: CHALLENGES AND SOLUTIONS.....	88
<i>Syada Tasmia Alvi; Mohammed Nasir Uddin; Linta Islam; Sajib Ahamed</i>	
A PRIVACY-AWARE DIGITAL VOTING SYSTEM EMPLOYING BLOCKCHAIN AND SMART CONTRACTS	94
<i>Syada Tasmia Alvi; Mohammed Nasir Uddin; Linta Islam; Sajib Ahamed</i>	
STOCK MARKET PREDICTION USING SUPERVISED MACHINE LEARNING TECHNIQUES: AN OVERVIEW.....	100
<i>Zaharaddeen Karami Lawal; Hayati Yassin; Rufai Yusuf Zakari</i>	
PAIRED AUGMENTATION FOR IMPROVED IMAGE CLASSIFICATION USING NEURAL NETWORK MODELS.....	106
<i>Shikar Rajcomar; Anban W. Pillay; Edgar Jembere</i>	
EVALUATING THE MALWARE THREAT CASES IN FIJI 2020	112
<i>Priynka Sharma; Kaylash Chaudhary</i>	
RANDOM FOREST CLASSIFIER FOR DETECTING CREDIT CARD FRAUD BASED ON PERFORMANCE METRICS	120
<i>Maung Hein Aung; Penelope Tane Seluka; Jean Tiana Rose Fuata; Maria Josephine Tikoisuva; Matalita Seremana Cabealawa; Ravneil Nand</i>	

A COMPREHENSIVE REVIEW ON THE INFLUENCE OF SOCIAL MEDIA MARKETING IN HARNESSING INTERNATIONAL STUDENTS TO AUSTRALIA	126
<i>Dona Lankika Shamalee Paranawithana; Ergun Gide; Robert Wu; Ghulam Chaudhry</i>	
IS PACIFIC ETHNICITY ASSOCIATED TO PROACTIVITY: AN INVESTIGATION IN HIGHER EDUCATION.....	133
<i>Bibhya Sharma; Bijeta Kumar; Mohammed Naseem; Emmenual Reddy; Goel Lal; Sunaina Nair; Gavin Khan; Salsabil Nusair</i>	
REF-CAMLA: A REFERENCE ARCHITECTURE FOR CONTEXT AWARE MOBILE LEARNING APPLICATIONS	139
<i>Bimal Aklesh Kumar; Bibhya Sharma; Elisa Yumi Nakagawa</i>	
IS GENDER ASSOCIATED WITH PROACTIVITY: AN INVESTIGATION IN HIGHER EDUCATION.....	143
<i>Gavin Khan; Mohammed Naseem; Sunaina Nair; Goel Lal; Sarvesh Chand; Salsabil Nusair; Emmenual Reddy; Bijeta Kumar</i>	
ATTRIBUTE-DRIVEN TOPICAL INFLUENTIAL USERS DETECTION IN ONLINE SOCIAL NETWORKS.....	149
<i>Aditi Dhali; Sarmistha Sarna Gomasta; Md Musfique Anwar; Iqbal H. Sarker</i>	
ANALYZING STUDENTS' ONLINE PRESENCE IN UNDERGRADUATE COURSES USING CLUSTERING.....	154
<i>Ravneil Nand; Ashneel Chand; Mohammed Naseem</i>	
MACHINE-LEARNED MODELS FOR THE PERFORMANCE OF SIX DIFFERENT SOLAR PV TECHNOLOGIES UNDER THE TROPICAL ENVIRONMENT	160
<i>Hayati Yassin; Veena Raj; Sathyajith Mathew; M. I. Petra</i>	
A MACHINE LEARNING APPROACH TO DETECT DEPRESSION AND ANXIETY USING SUPERVISED LEARNING.....	166
<i>Anamika Ahmed; Raihan Sultana; Md Tahmidur Rahman Ullas; Mariyam Begom; Md. Muzahidul Islam Rahi; Md. Ashrafal Alam</i>	
CYBER ATTACKS DETECTION FROM SMART CITY APPLICATIONS USING ARTIFICIAL NEURAL NETWORK	172
<i>Md. Mamunur Rashid; Joarder Kamruzzaman; Tasadduq Imam; Shahriar Kaisar; Md Jahangir Alam</i>	
PERFORMANCE ANALYSIS OF MULTI-NODE HADOOP CLUSTER BASED ON LARGE DATA SETS	178
<i>N. Ahmed; Andre L. C. Barczak; Sibghat Ullah Bazai; Teo Susnjak; Mohammed A. Rashid</i>	
NON-PARAMETRIC RESPONSE SURFACE ANALYSIS: DETECTING NETWORK HOMOTOPY VARIATION	184
<i>Phumlani Nhlanganiso Khoza</i>	
AN EXPLORATION OF CLICKING-ON LBA DECISION	192
<i>Heng-Li Yang; Shiang-Lin Lin; Bo-Yi Li</i>	
A COMPARISON BASED ANALYSIS ON THE PERFORMANCE OF DEEP NEURAL NETWORK MODELS IN TERMS OF CLASSIFYING PNEUMONIA FROM CHEST X-RAY IMAGES.....	197
<i>Nasrin Akter; Md Tanzim Reza; Md. Ashrafal Alam</i>	
MACHINE LEARNING APPROACH FOR FACE RECOGNITION FROM 3D MODELS GENERATED BY MULTIPLE 2D ANGULAR IMAGES.....	203
<i>Sabrina Jahan Prova; Shegufita Mehzabin; Moinuddin Mahmud; Md. Ashrafal Alam</i>	
INTERNET OF THINGS-BASED INNOVATIONS IN SAUDI HEALTHCARE SECTOR: A METHODOLOGICAL APPROACH FOR INVESTIGATING ADOPTION ISSUES.....	206
<i>Feisal Hadi Masmali; Shah Jahan Miah; Nada Yahya Mathkooor</i>	
COVID-19 PANDEMIC: A NEW ERA OF CYBER SECURITY THREAT AND HOLISTIC APPROACH TO OVERCOME	211
<i>Jabber Ahmed; Quddus Tushar</i>	
DESIGNING MOBILE HEALTH AND WELL-BEING APPLICATIONS: A VALUE-ORIENTED APPROACH.....	216
<i>Krassie Petrova; Maria Elena Villapol; Michelle Edwyn; Shahper Richter</i>	
IMPACT OF BUSINESS TECHNOLOGIES ON THE SUCCESS OF E-COMMERCE STRATEGIES: SMES PERSPECTIVE	222
<i>Ziad H. A. Almtiri; Shah Jahan Miah</i>	
A CASE STUDY OF USER PRIVACY BASED ON WIFI DATA IN A CAMPUS SETTING.....	229
<i>Shangyu Chen; Wai Yan Wong; Xiang Ci; Richard O. Sinnott</i>	
FAKE NEWS DETECTION USING CONTENT-BASED FEATURES AND MACHINE LEARNING.....	235
<i>Okuhle Ngada; Bertram Haskins</i>	

TRANSFER LEARNING FROM PNEUMONIA TO COVID-19	241
<i>Hongen Lu; Sandini Anuradha Hewakankanamge; Yuan Miao</i>	
IMAGE GENERATION CONTAINING INVISIBLE QR CODE BY CONVOLUTIONAL NEURAL NETWORK	247
<i>Kohei Yamauchi; Hiroyuki Kobayashi</i>	
DIGITAL FORENSICS FOR INFECTED COMPUTER DISK AND MEMORY: ACQUIRE, ANALYSE, AND REPORT	252
<i>Aiman Al-Sabaawi</i>	
ESTIMATING THE SIZE OF CROWDS THROUGH DEEP LEARNING	259
<i>Peng Zhao; Kazi Abir Adnan; Xinrui Lyu; Shimin Wei; Richard O. Sinnott</i>	
A ROBUST AIRFLOW ENVELOPE TRACKING AND DIGITIZATION APPROACH FOR AUTOMATIC DETECTION OF APNEA AND HYPOPNEA EVENTS	267
<i>Md Bashir Uddin; Chin Moi Chow; Sai H. Ling; Steven W. Su</i>	
AN EMPIRICAL EVALUATION OF COLLAPSIBLE PANEL INTERFACES	271
<i>Joshua Leung; Andy Cockburn</i>	
INTEGRATING CLOUD ERP SYSTEMS WITH NEW TECHNOLOGIES BASED ON INDUSTRY 4.0: A SYSTEMATIC LITERATURE REVIEW	277
<i>Sunchai Tongsuksai; Sanjay Mathrani</i>	
VISUALIZING RELATIONALITY AS ASSETS TOWARD COMMUNITIES VITALIZATION	283
<i>Mizuki Tanaka; Ryo Shioya; Katsuhiko Yonezaki; Yurika Shiozu; Ivan Tanev; Katsunori Shimohara</i>	
UNSAFE IMAGE CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORK FOR BRAND SAFETY	289
<i>Quan Minh Vo; Nhan Thi Cao; An Hoa Ton-That</i>	
PROPOSAL OF REGIONAL APPLICATION TO CONFIRM AND STRENGTHEN THE CONNECTION BETWEEN RESIDENTS	293
<i>Ryo Shioya; Mizuki Tanaka; Yurika Shiozu; Katsuhiko Yonezaki; Ivan Tanev; Katsunori Shimohara</i>	
PREDICTING STUDENTS FINAL ACADEMIC PERFORMANCE USING FEATURE SELECTION APPROACHES	295
<i>Gomathy Suganya Ramaswami; Teo Susnjak; Anuradha Mathrani; Rahila Umer</i>	
ASSESSING THE ACCEPTANCE OF CLINICAL DECISION SUPPORT TOOLS USING AN INTEGRATED TECHNOLOGY ACCEPTANCE MODEL	300
<i>Soliman Aljarboa; Shah Jahan Miah</i>	
IMPROVEMENT OF THE LIGHTING FIXTURES BASED INDOOR LOCALIZATION METHOD CEPHEID	306
<i>Hiroyuki Kobayashi</i>	
EXAMINATION OF THE OPTIMUM REGIONAL POINT SYSTEM BY GIFT & CIRCULATION MODEL	312
<i>Shiozu Yurika; Tanaka Mizuki; Shioya Ryo; Shimohara Katsunorie</i>	
DOMINANCE OF DEEP LSTM IN SMARTPHONE SENSOR BASED HUMAN ACTIVITY CLASSIFICATION	319
<i>Amir Faiyaz; Md. Sifat Ibn Awlad; Nazmuddin Al Masood; Mostafijur Rahman Akhond; Md. Golam Rabiul Alam</i>	
ENHANCING RELIABILITY PREDICTIONS BY CONSIDERING LEARNING EFFECTS BASED ON ONE-PARAMETER LINDLEY DISTRIBUTION	325
<i>Lutfiah I. Al-Turk; Norah N. Al-Mutairi</i>	
READING NOTES AS MEDIA TO ENRICH COMMUNICATIONS BETWEEN READER AND BOOK	332
<i>Satoko Yoshida; Madoka Takahara; Ivan Tanev; Katsunori Shimohara</i>	
CLASSIFICATION OF NON-TOPOLOGICAL MAGNETIC CONFIGURATIONS USING MACHINE LEARNING	337
<i>Saffat Bokul; Samiha Sabrin Md Abdus Shukur; Saquib Ahmed; Tonmoy Kumar Bhowmick; Md. Ashrafal Alam</i>	
AUTOMATED AND INTERPRETABLE M-HEALTH DISCRIMINATION OF VOCAL CORD PATHOLOGY ENABLED BY MACHINE LEARNING	342
<i>Nabeel Seedat; Vered Aharonson; Yaniv Hamzany</i>	
JOBFIT: JOB RECOMMENDATION USING MACHINE LEARNING AND RECOMMENDATION ENGINE	348
<i>Kevin Appadoo; Muhammad Bilaal Soonoo; Zahra Mungloo-Dilmohamud</i>	
EYEESEE: CAMERA TO CAPTION WITH ATTENTION MECHANISM	354
<i>Tarini Prsti Ramsewak; Dave Appadoo; Zahra Mungloo-Dilmohamud</i>	
BREAST CANCER RISK PREDICTION BASED ON SIX MACHINE LEARNING ALGORITHMS	360
<i>Md. Razu Ahmed; Md. Asraf Ali; Joy Roy; Shakil Ahmed; N. Ahmed</i>	

INDUCTIVE POSITION SENSING OF POWER CABLE FOR AUTONOMOUS VEHICLE NAVIGATION	365
<i>Wonoo Choo; Erkan Kayacan</i>	
EVALUATION OF EARTHQUAKE RESISTANCE OF URBAN BUILDINGS USING IMAGE PROCESSING AND MACHINE LEARNING TECHNIQUES	371
<i>Tahsinur Rahman; Yasin Ahmed; Tawsiful Alam; Md. Hasibur Rahman Shakil; Md. Tanjidul Hossain; Fiaruz Nawer Khan; Shakib Mahmud Dipto; Mostafijur Rahman Akhond; Md Ashrafal Alam</i>	
DEEP XI AS A FRONT-END FOR ROBUST AUTOMATIC SPEECH RECOGNITION	377
<i>Aaron Nicolson; Kuldip K. Paliwal</i>	
NEW AND SIMPLE OFFLINE AUTHENTICATION APPROACH USING TIME-BASED ONE-TIME PASSWORD WITH BIOMETRIC FOR CAR SHARING VEHICLES	383
<i>Haqi Khalid; Shaijul Jahari Hashim; Sharifah Mumtazah Syed Ahmad; Fazirulhisyam Hashim; Muhammad Akmal Chaudary</i>	
LAND USE DETECTION & IDENTIFICATION USING GEO-TAGGED TWEETS	390
<i>Saeed Khan; Md Shahzamal</i>	
DIGITAL GENDER DIVIDE IN ONLINE EDUCATION DURING COVID-19 LOCKDOWN IN INDIA	398
<i>Anuradha Mathrani; Tarushikha Sarvesh; Sanjay Mathrani</i>	
INCREMENTAL IMPROVEMENT FOR SUB-OPTIMAL EUCLIDEAN TSP PATHS GENERATED BY TRADITIONAL HEURISTICS	404
<i>Andre L. C. Barczak; Erik T. Barczak; Napoleon H. Reyes</i>	
CRI: MEASURING CITY INFECTION RISK AMID COVID-19	410
<i>Mingliang Liu; Shuo Yu; Xinbei Chu; Feng Xia</i>	
CLASSIFICATION OF MOTOR IMAGERY TASKS FOR BRAIN-COMPUTER INTERFACE USING EEG SIGNALS	416
<i>Lafiz Maruf; Zawad Alam; M. M.-E.-N. Rahman; M. Anisur Rahman; Peter Hough; Mohammad Zavid Parvezz</i>	
STRATEGIC CREATION AND PLACEMENT OF LANDMARKS FOR ROBOT NAVIGATION IN A PARTIALLY-KNOWN ENVIRONMENT	421
<i>Avinesh Prasad; Bibhya Sharma; Sandeep A. Kumar</i>	
APPLICATION OF ARTIFICIAL NEURAL NETWORKS TO FORECAST RIVER DISCHARGE RATES: A CASE STUDY OF THE GROOTFONTEIN AQUIFER	427
<i>Yolanda Kanyama; Ritesh Ajoodha; Helen Seyler; Hlanganani Tutu</i>	
EFFECTIVE GRAPH BASED VERTEX COVER ALGORITHM USING MULTI-DOCUMENT NODE SUMMARIZATIONS	433
<i>Mohammad Rashid Hussain; Ayman Qahmash; Salem Alelyani; Mohammed Saleh Alsager</i>	
A FACE-OFF - CLASSICAL AND HEURISTIC-BASED PATH PLANNING APPROACHES	439
<i>Vishal Chand; Avinesh Prasad; Kaylash Chaudhary; Bibhya Sharma; Samlesh Chand</i>	
DIGITAL LITERACY: A CATALYST FOR THE 21ST CENTURY EDUCATION	445
<i>Pritika Reddy; Kaylash Chaudhary; Bibhya Sharma; Ronil Chand</i>	
ALGORITHMS EVALUATION FOR IMPROVING CLASSIFICATION AND COUNTING MODEL IN WAREHOUSE RECEIVING MANAGEMENT	451
<i>Judy X. Yang; Lily D. Li; Mohammad G. Rasul</i>	
A REAL TIME NEUROPHYSIOLOGICAL FRAMEWORK FOR GENERAL MONITORING AWARENESS OF AIR TRAFFIC CONTROLLERS	458
<i>Rajamanickam Yuvaraj; Sun Woh Lye; Hong Jie Wee</i>	
AUTOMATIC DETECTION OF IRONIC EXPRESSIONS BASED ON THE IMPLICIT DISPLAY THEORY	462
<i>Akinori Sato; Ivan Tanev; Katsunori Shimohara</i>	
LEPIDOPTERA CLASSIFICATION THROUGH DEEP LEARNING	466
<i>Xiaotian Jia; Xueting Tan; Guoen Jin; Richard O. Sinnott</i>	
DISTRIBUTED DATABASE USING SHARDING DATABASE ARCHITECTURE	472
<i>Bahaa Mahmoud Abdelhafiz</i>	
PERFORMANCE ENHANCEMENT OF INTRUSION DETECTION SYSTEM USING BAGGING ENSEMBLE TECHNIQUE WITH FEATURE SELECTION	489
<i>Md. Mamunur Rashid; Joarder Kamruzzaman; Mohiuddin Ahmed; Nahina Islam; Santoso Wibowo; Steven Gordon</i>	
CODE COMPLEXITY ANALYSER AND VISUALISER FOR NOVICE PROGRAMMER	494
<i>Siripond Mullanu; Sunwit Petchoo; Caslon Chua</i>	
EFFICIENT PORTFOLIO MANAGEMENT USING TOPSIS AND ADA-BOOST	500
<i>A. K. M. Amanat Ullah; Mohammad Tanvir Mahtab; Md. Golam Rabiul Alam</i>	
VISUALIZATION OF NAPLAN DATA: WHAT DO WE LEARN FROM?	506
<i>Vinh Bui; Lewes Peddell; Royce Willis</i>	

APPLICATION OF DEEP LEARNING TO FORECAST THE SOUTH AFRICAN UNEMPLOYMENT RATE: A MULTIVARIATE APPROACH	512
<i>Rudzani Mulaudzi; Ritesh Ajoodha</i>	
DETERMINANTS OF COMPUTERISED ACCOUNTING INFORMATION SYSTEM ADOPTION USING AN INTEGRATED ENVIRONMENTAL PERSPECTIVE: AN EMPIRICAL STUDY	518
<i>Ahmed Almgrashi</i>	
A CONCEPTUAL FRAMEWORK FOR GENERALISED AUDIT SOFTWARE ADOPTION IN SAUDI ARABIA BY GOVERNMENT INTERNAL AUDITING DEPARTMENTS USING AN INTEGRATED INSTITUTIONAL THEORY-TOE MODEL	525
<i>Abdulwahab Mujalli; Ahmed Almgrashi</i>	
PORTFOLIO OPTIMIZATION WITH 2D RELATIVE-ATTENTIONAL GATED TRANSFORMER	533
<i>Tae Wan Kim; Matloob Khushi</i>	
PERFORMANCE EVALUATION OF ALOHA AND CSMA FOR LORAWAN NETWORK.....	539
<i>Mounika Baddula; Biplob Ray; Morshed Chowdhury</i>	
CYBERBULLYING DETECTION ON SOCIAL NETWORKS USING MACHINE LEARNING APPROACHES	545
<i>Md Manowarul Islam; Md Ashraf Uddin; Linta Islam; Arnisha Akter; Selina Sharmin; Uzzal Kumar Acharjee</i>	
A LSTM RECURRENT NEURAL NETWORK FOR LIGHTNING FLASH PREDICTION WITHIN SOUTHERN AFRICA USING HISTORICAL TIME-SERIES DATA	551
<i>Yaseen Essa; Ritesh Ajoodha; Hugh G. P. Hunt</i>	
REDUCING WRONG LABELS USING CONFLICT SCORE IN DISTANT SUPERVISION FOR RELATION EXTRACTION IN BANGLA LANGUAGE	557
<i>Tanzim Mahfuz; Tasneem Farhana Suha; Md Musfique Anwar</i>	
REDUCING SOCIAL MEDIA USERS' BIASES TO PREDICT THE OUTCOME OF AUSTRALIAN FEDERAL ELECTION 2019	563
<i>Badhan Chandra Das; Md Musfique Anwar; Iqbal H. Sarker</i>	
EFFICIENT DECENTRALIZED DATA STORAGE BASED ON PUBLIC BLOCKCHAIN AND IPFS	569
<i>Morteza Alizadeh; Karl Andersson; Olov Schelén</i>	
USING MACHINE LEARNING TO CLASSIFY ANDROID APPLICATION BEHAVIOR.....	577
<i>Modhi Alsobeihy; Shorouq Altamimi; Elaaf Salem; Haya Alhazzani; Ebtehal Alhjaile</i>	
DETECTION AND 3D VISUALIZATION OF BRAIN TUMOR USING DEEP LEARNING AND POLYNOMIAL INTERPOLATION	581
<i>Md. Akram Hossan Tuhin; Tarunya Pramanick; Humayoun Kabir Emon; Wasiur Rahman; Md. Muzahidul Islam Rahi; Md. Ashrafal Alam</i>	
AUTOMATIC PREDICTION OF LEARNING STYLES IN LEARNING MANAGEMENT SYSTEMS: A LITERATURE REVIEW	587
<i>Nisreen Alzahrani; Maram Meccawy; Muazzam Ahmed Abdalsamei Siddiqu</i>	
PERFORMANCE EVALUATION OF PERMISSIONED BLOCKCHAIN PLATFORMS	594
<i>Ahmed Afif Monrat; Olov Schelén; Karl Andersson</i>	
CAUSAL CONVOLUTIONAL NEURAL NETWORK-BASED KALMAN FILTER FOR SPEECH ENHANCEMENT	602
<i>Sujan Kumar Roy; Kuldip K. Paliwal</i>	
FPGA DEPLOYMENT OF NEUROEVOLVED BINARY NEURAL NETWORKS	608
<i>Raul Valencia; Chiu-Wing Sham</i>	
THE USE OF AUTOMATIC SPEECH RECOGNITION IN EDUCATION FOR IDENTIFYING ATTITUDES OF THE SPEAKERS.....	614
<i>Lomthandazo Matsane; Ashwini Jadhav; Ritesh Ajoodha</i>	
A COMPARATIVE STUDY OF ENSEMBLE APPROACHES TO FACT-CHECKING FOR THE FEVER SHARED TASK	621
<i>Oluwabamigbe O. Oni; Terence L. Van Zyl</i>	
ADVERSARIAL NEURO ENCODING WITH BINARY NEURAL NETWORKS	629
<i>Raul Valencia; Chiu Wing Sham</i>	
A PROBABILISTIC APPROACH TO EVALUATE THE RELATIONSHIP BETWEEN VISUAL AND QUANTIFIED PAVEMENT DISTRESS DATA USING LOGISTIC REGRESSION	634
<i>Tamina Tasmin; James Wang; Hussein Dia; David Richards; Quddus Tushar</i>	
SIZING AND MISSION ANALYSIS OF MULTIROLE SHORT-HAUL ALL-ELECTRIC SEAPLANE FOR SUSTAINABLE AVIATION.....	638
<i>Nouman Uddin; Devendra Singh; Rajkumar S. Pant</i>	
IMPACT OF LOAD ON TOTAL HARMONIC DISTORTION IN A PHOTOVOLTAIC SYSTEM	643
<i>Syed Khawar H. Shah; Ali Hellany; Mahmood Nagrial; Jamal Rizk</i>	

BARRIERS FOR AN INTEGRATED LEAN AND ISO 14001 IMPLEMENTATION FOR SUSTAINING ENVIRONMENTAL PERFORMANCE IN THE MANUFACTURING INDUSTRY	649
<i>Aqeel Ahmed; Sanjay Mathrani; Nihal Jayamaha</i>	
A QUBO FORMULATION FOR THE K-DENSEST COMMON SUBGRAPH ISOMORPHISM PROBLEM VIA QUANTUM ANNEALING	654
<i>Nan Huang</i>	
QUALITY FOR SUSTAINABILITY: SPC ANALYSIS OF PHOTOVOLTAIC MODULES FLASH TEST	661
<i>Raid Al-Aomar; Mohamed Al-Shehhi</i>	
COMPUTATIONAL FLOW ANALYSIS ON 45DEGREES INCLINED, REAL-SCALE ARCHIMEDES SCREW TURBINE	669
<i>Dylan S. Edirisinghe; Kim-Byeong Ha; S. D. G. S. P. Gunawardane; Jong-Myung Paik; Min-Sung Kim; Young-Ho Lee</i>	
NOVEL TIDAL ENERGY HARNESSING SYSTEM UTILIZING QUADRUPLE BI-DIRECTIONAL TURBINE ARRANGEMENT	670
<i>A. H. S. Weerakoon; Ho-Seong Young; Won-Kil Kim; Young-Ho Lee</i>	
METEOROLOGY OF THE RED PLANET BY DUST DEVILS	671
<i>Fares M. Howari; Imen Ben Salem; Manish Sharma; Cijo Xavier; Yousef Nazzal; Fatima Alaydaroos</i>	
APPLICATION OF HYPERSPECTRAL IMAGING TECHNIQUE TO DETERMINE THE QUALITY OF PHOTO AND THERMAL EXPOSED AND CONTAMINATED PHARMACEUTICAL FORMULATIONS: A COST EFFECTIVE WAY OF QUALITY TESTING	675
<i>Fares M. Howari; Cijo Xavier; Manish Sharma; Yousef Nazzal; Imen Ben Salem; Fatima Alaydaroos</i>	
TRAJECTORY TRACKING OF A QUADROTOR WITH DISTURBANCE REJECTION USING EXTENDED STATE OBSERVER	680
<i>Izzuddin Mat Lazim; Liyana Ramli; Abdul Rashid Husain; Aminurrashid Noordin; Mus'Ab Sahrin; Ahmad Faudzi</i>	
DISTRIBUTED VELOCITY CONTROLLERS OF THE INDIVIDUALS OF EMERGING SWARM CLUSTERS	686
<i>Sandeep Ameet Kumar; Jito Vanualailai; Avinesh Prasad</i>	
MAXIMIZING ENERGY PERFORMANCE THROUGH INNOVATIVE SUSTAINABLE DESIGN	692
<i>Kamal Jaafar; Sisizakele Kubheka</i>	
GEOMETRIC OPTIMIZATION OF AN L SHAPED VIBRATION ENERGY HARVESTER FOR A BRIDGE STRUCTURE	698
<i>S. D. G. S. P. Gunawardane; Chanuka Gunarathne; Young-Ho Lee</i>	
STATISTICAL ANALYSIS AND PREDICTIVE MODELLING OF AIR POLLUTANTS USING ADVANCED MACHINE LEARNING APPROACHES	703
<i>Wan Yun Hong; David Koh; Anis Asma Ahmad Mohtar; Mohd Talib Latif</i>	
DEEP MACHINE LEARNING DIGITAL LIBRARY RECOMMENDATION SYSTEM BASED ON METADATA FOR ARABIC AND ENGLISH LANGUAGES	709
<i>Maram Almaghrabi; Girija Chetty</i>	
PIECEWISE LINEAR OPTIMIZATION FOR PUBLIC EV CHARGING DEPOTS IN DIFFERENT UTILITY ENVIRONMENTS	715
<i>Alexander Brissette; David Coats; Don Scoffield</i>	
AN EEG ANALYSIS APPROACH TOWARDS BRAIN-TO-BRAIN SYNCHRONIZATION	721
<i>Kamran Hameed; Ijlal Shahrukh Ateeq; Sana Hyder Khan; Shafia Tabassum</i>	
ASSESSING FLOOD FREQUENCY ANALYSIS CHANGES IN ARR 2016 AND THE IMPACT ON CREEK HYDROLOGY	727
<i>Matt Johnson; Rezaul Chowdhury</i>	
Author Index	