

2020 International Conference on Data Analytics for Business and Industry: Way Towards a Sustainable Economy (ICDABI 2020)

**Sakheer, Bahrain
26 – 27 October 2020**



**IEEE Catalog Number: CFP20Y56-POD
ISBN: 978-1-7281-9676-3**

**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:	CFP20Y56-POD
ISBN (Print-On-Demand):	978-1-7281-9676-3
ISBN (Online):	978-1-7281-9675-6

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

HYBRID CLASSIFICATION METHOD TO DETECT THE PRESENCE OF HUMAN IN A SMART BUILDING ENVIRONMENT	1
<i>Nurul Farzana Ahmad Mahmud; Nor Azuana Ramli</i>	
ANALYSIS ON POWER OUTAGE BY USING BIG DATA ANALYTICS.....	6
<i>Rosfarahanun Ali; Nor Azuana Ramli; Lilik J. Awaln</i>	
CONTRIBUTION OF E-BUSINESS IN ECONOMIC GROWTH OF BAHRAIN	12
<i>Ishaq Mohammad Salam Khattak; Muhammad Abrar Ul Haq; Farheen Akram; Hafiz Abid Malik</i>	
A META-ANALYSIS OF FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH: AN EMPIRICAL EVIDENCE FROM PAKISTAN DURING COVID 19 POLICYMAKING	18
<i>Asma Khalid; Muhammad Hamdan Tahir; Hafiz Muhammad Bilal Asghar; Mubbasher Munir; Noman Arshed; Hafeez Rehman</i>	
AN INTELLIGENT PASSIVITY-BASED CONTROL FOR TIDAL POWER CONVERSION SYSTEM WITH PMSG	24
<i>Youcef Belkhier; Abdelyazid Achour; Rabindra Nath Shaw</i>	
DIGITAL ORIENTATION SCALE: DEVELOPMENT AND VALIDATION	29
<i>Mohammed Aliyu Dantsoho; Abubakar Ado Adamu; Muhammed Yazeed; Nasiru Abdullahi; Kabiru Jinjiri Ringim; Salisu Umar</i>	
RESILIENCE AND AGILITY AS INDISPENSABLE CONDITIONS FOR SUSTAINING VIABLE SUPPLY CHAIN DURING PANDEMICS: THE CASE OF BAHRAIN	35
<i>Abdelmoneim B. M. Metwally; Salah A. M. Ali; Abdlnasser T. I. Mohamed</i>	
CRITICAL SUCCESS FACTORS AS ANTECEDENTS OF SUSTAINABILITY IN HIGHER EDUCATION INSTITUTIONS IN EMERGING ECONOMIES: THE CASE OF BAHRAIN.....	40
<i>Abdlnasser Mohamed; Salah Ali; Abdelmoneim Metwally</i>	
A WARNING SYSTEM FOR THE RETURN OF COVID-19 USING SOCIAL MEDIA DATA	45
<i>Shan Shan; Yulei Li</i>	
DATA ANALYTICS OF STRATEGIC AGILITY IN ORGANIZATIONAL STRUCTURE AND EXCELLENCE: A CASE OF BAHRAIN CIVIL SERVICE SECTOR.....	50
<i>Mohamed Ahmed Saleh Saad Almuran; Abdulsattar Alazzawi</i>	
IMAGE CLASSIFICATION USING CONVOLUTION NEURAL NETWORK BASED HASH ENCODING AND PARTICLE SWARM OPTIMIZATION	55
<i>Sameer I. Ali Al-Janabi; Sufyan T. Faraj Al-Janabi; Belal Al-Khateeb</i>	
ARTIFICIAL INTELLIGENCE IN BANKING SECTOR: EVIDENCE FROM BAHRAIN.....	60
<i>Yomna Abdulla; Rabab Ebrahim; Sumathi Kumaraswamy</i>	
PREDICTING REPURCHASE INTENTION USING TEXTUAL FEATURES OF ONLINE CUSTOMER REVIEWS.....	65
<i>Dedy Suryadi</i>	
IMPROVE IRRIGATION TIMING DECISION FOR AGRICULTURE USING REAL TIME DATA AND MACHINE LEARNING.....	71
<i>João Cardoso; André Glória; Pedro Sebastião</i>	
A NEW GENERALIZATION OF DAGUM DISTRIBUTION WITH APPLICATION TO FINANCIAL DATA SETS.....	76
<i>A. I. Ishaq; A. A. Abiodun</i>	
GENDER CLASSIFICATION AND AGE PREDICTION USING CNN AND RESNET IN REAL-TIME	82
<i>Asad Mustafa; Kevin Meehan</i>	
DATA ANALYTICS AND SME PERFORMANCE: A BIBLIOMETRIC ANALYSIS	88
<i>Muzaffar Asad; Naveed Altaf; Aqeel Israr; Ghias Ul Hassan Khan</i>	
ARTIFICIAL INTELLIGENCE AND DIGITAL TRANSFORMATION IN SUPPLY CHAIN MANAGEMENT A CASE STUDY IN SAUDI COMPANIES.....	93
<i>Yousif Mohammed Yousif Alsharidah; Abdulsattar Alazzawi</i>	
DEVELOPMENT OF A BAHRAINI OPEN DATA WEB PORTAL FOR INVESTMENT INDUSTRY	99
<i>Ehab Juma Adwan; Zainab M. Alhujairi; Nayla Abdulaziz Almuqahwi</i>	
MULTIPLE IMPUTATION OF MISSING DATA IN MARKETING.....	105
<i>V. Anand; Varsha Mamidi</i>	

IMPACT OF DIGITAL CAPABILITIES AND TECHNOLOGY SKILLS ON EFFECTIVENESS OF GOVERNMENT IN PUBLIC SERVICES.....	111
<i>Prabhat Mittal</i>	
HYBRID INTRUSION DETECTION SYSTEM BASED ON DEEP LEARNING	116
<i>Ali Azawii Abdul Lateef; Sufyan T. Faraj Al-Janabi; Belal Al-Khateeb</i>	
AN INTELLIGENT TRAFFIC MONITORING SYSTEM FOR NON-HELMET WEARING MOTORCYCLISTS DETECTION	121
<i>Sumisha Samuel; Saanu Reghunadh; M. K. Ashwin; Sandeep Sabu; Sharath S. Nair; Renju Rachel Varghese</i>	
DURATION ESTIMATION OF VEHICLE BASED PRODUCTION: CASE STUDY OF ASSEMBLY LINE.....	126
<i>Mustafa Akpinar; Kevser Ovaz Akpinar; Engin Aktas; Omer Faruk Senocak; Hatice Donmez; Varol Cavdar; Osman Selcuk Sarioglu</i>	
TANDEM ORGANIC SOLAR CELL OPTIMIZATION USING RESPONSE SURFACE METHODOLOGY	130
<i>Ayman R. Mohammed; Irene S. Fahim</i>	
UML MODELING OF ONLINE PUBLIC BUS RESERVATION SYSTEM IN EGYPT	135
<i>Ayman R. Mohammed; Sally S. Kassem</i>	
MODELING AND IMPLEMENTATION OF AN AUTOMATIC DRIP IRRIGATION SYSTEM.....	141
<i>Sodessa Soma Shonkora; Ayodeji Olalekan Salau</i>	
EMULATION OF A HAEMORRHAGE REMOVAL ROBOT USED DURING NEUROSURGICAL TREATMENT OF GLIOMA	146
<i>Munyaradzi Charles Rushambwa; Mavis Gezimati; Richa Kushwaha; Rajkumar Palaniappan; P. Govindaraj; Fizza Ghulam Nabi</i>	
A NEW FAMILY OF SKEW-NORMAL LIFETIME DISTRIBUTIONS FOR INDUSTRIAL APPLICATIONS	152
<i>Eman Khorsheed; Hugo S. Salinas; Hassan S. Bakouch</i>	
DT-CWPT BASED TSALLIS ENTROPY FOR VOCAL FOLD PATHOLOGY DETECTION	156
<i>Farah Nazlia Che Kassim; Vikneswaran Vijean; Hariharan Muthusamy; Zulkapli Abdullah; Rokiah Abdullah; Rajkumar Palaniappan</i>	
ENSEMBLE LEARNING MODEL FOR PREDICTION OF NATURAL GAS SPOT PRICE BASED ON LEAST SQUARES BOOSTING ALGORITHM.....	161
<i>Aliyuda Ali</i>	
FORECASTING A FIRM'S POSITION BASED ON PITROSKI'S F-SCORE USING ARIMA	167
<i>Ajinkya Chaudhari; Parag Ghorpade</i>	
A LITERATURE REVIEW OF ORGANIZATIONAL CULTURAL DRIVERS AFFECTING THE DIGITAL TRANSFORMATION OF THE BANKING SECTOR.....	172
<i>Marwa Al-Faihani; Adel Ismail Al-Alawi</i>	
A STUDY OF USER STORY IN PRACTICE	178
<i>Prabhat Pokharel; Pramesh Vaidya</i>	
MULTI-OBJECTIVE OPTIMIZATION FOR SUSTAINABLE CLOSED-LOOP SUPPLY CHAIN NETWORK UNDER DEMAND UNCERTAINTY: A GENETIC ALGORITHM	183
<i>Ahmad Sobhan Abir; Ishtiaq Ahmed Bhuiyan; Mohammad Arani; Md Mashum Billal</i>	
A MACHINE LEARNING-BASED ERROR MODEL FOR QUALITY CONTROL OF FUNCTIONAL APPROXIMATE COMPUTING.....	188
<i>Mahmoud Masadeh; Omar Alshorman; Adam R. H. Alhawari</i>	
MEASURING ENGAGEMENT LEVEL IN CHILD-ROBOT INTERACTION USING MACHINE LEARNING BASED DATA ANALYSIS	193
<i>George K. Sidiropoulos; George A. Papakostas; Chris Lytridis; Christos Bazinas; Vassilis G. Kambouras; Efi Kourampa; Elpida Karageorgiou</i>	
SLOW HYPERTEXT TRANSFER PROTOCOL MITIGATION MODEL IN SOFTWARE DEFINED NETWORKS.....	198
<i>Opeyemi Aderiike Abisoye; Oluwatobi Shadrach Akanji; Blessing Olatunde Abisoye; Joseph Awotunde</i>	
TIME-SERIES MODEL FOR FORECASTING SHORT-TERM FUTURE ADDITIONS OF RENEWABLE ENERGY TO WORLDWIDE CAPACITY	203
<i>Qasem Abu Al-Haija; Mashhour I. Al Tarayrah; Hesham M. Enshasy</i>	
FACTORS INFLUENCING CONSUMERS' ELECTRONIC WORD-OF-MOUTH (EWOM) INTENTION AMONG GENERATION Y (GEN Y) TOWARDS TRAVEL DESTINATION.....	209
<i>Muhammad Ikram Badrul Hisham; Norazamimah Bogal; Surya Ahmad Royali; Nurul Aida Harun; Masliana Tamrin</i>	
MONITORING OF PROLONGED AND ASYMMETRICAL POSTURE TO IMPROVE SITTING BEHAVIOR	215
<i>Arif Reza Anwary; Michael Vassallo; Hamid Bouchachia</i>	

INVESTMENT IN HUMAN CAPITAL TO PROMOTE KNOWLEDGE-BASED ECONOMY: DATA ANALYSIS IN THE GCC	220
<i>Saeed Aldulaimi; Radwan Kharabsheh; Amer Al Shishany; Abdulsattar Alazzawi</i>	
BIG DATA STORAGE USING MODEL DRIVEN ENGINEERING: FROM BIG DATA META- MODEL TO CLOUDERA PSM META-MODEL	226
<i>Allae Erraïssi; Mouad Banane; Abdessamad Belangour; Mohamed Azzouazi</i>	
EXPLORING THE RELATION BETWEEN BLOOD TESTS AND COVID-19 USING MACHINE LEARNING.....	231
<i>Mohamed Almansoor; Nabil M. Hewahi</i>	
COMPARATIVE STUDY FOR DEEP REINFORCEMENT LEARNING WITH CNN, RNN, AND LSTM IN AUTONOMOUS NAVIGATION	237
<i>Ziya Tan; Mehmet Karakose</i>	
DECISION TREE BASED CUSTOMER ANALYSIS METHOD FOR ENERGY PLANNING IN SMART CITIES	242
<i>Orhan Yaman; Hasan Yetis; Mehmet Karakose</i>	
HANDWRITING BASED PERSONALITY IDENTIFICATION USING TEXTURAL FEATURES	246
<i>Abdellatif Gahmousse; Abdeljalil Gattal; Chawki Djeddi; Imran Siddiqi</i>	
INDONESIAN SENTIMENT ANALYSIS: AN EXPERIMENTAL STUDY OF FOUR KERNEL FUNCTIONS ON SVM ALGORITHM WITH TF-IDF	252
<i>Pulung Hendro Prastyo; Igi Ardiyanto; Risanuri Hidayat</i>	
A NEW AND RELIABLE OBJECTIVE FUNCTIONS FOR EXTRACTING THE UNKNOWN PARAMETERS OF SOLAR PHOTOVOLTAIC CELL USING POLITICAL OPTIMIZER ALGORITHM.....	258
<i>M. Premkumar; R. Sowmya; Pradeep Jangir; J. S. V. Siva Kumar</i>	
CAPITAL STRUCTURE, EQUITY OWNERSHIP AND EARNINGS MANAGEMENT.....	264
<i>Fatima K. Al-Rahma; Omar I. Juhmani</i>	
NONPARAMETRIC KULLBACK-LEIBLER DISTANCE-BASED METHOD FOR NETWORKS INTRUSION DETECTION	270
<i>Benamar Bouyeddou; Benamar Kadri; Fouzi Harrou; Ying Sun</i>	
COUNTERCYCLICAL MONETARY POLICY FOR OVERCOMING COVID 19 INDUCED RECESSION BY INTRODUCING INCENTIVE BASED DIGITAL CURRENCY.....	275
<i>Mohammad Selim</i>	
COMPARING ARTIFICIAL PANCREAS CONTROLLED BY HYBRID "CLOSED-LOOP" MACHINE LEARNING (ML) TRAINED ALGORITHM TO MULTI-DAILY INJECTION (MDI), INSULIN PUMP WITHOUT CGM AND "SENSOR ASSISTED" INSULIN PUMP THERAPIES FOR DIABETES TYPE 1 (DT1) TREATMENT	281
<i>Joan Carles Peiró</i>	
CLASSIFICATION OF EPILEPTIC SEIZURES USING ARTIFICIAL NEURAL NETWORK WITH ADAPTIVE MOMENTUM.....	287
<i>Alaa Ali Hameed; Akhtar Jamil; Naim Ajlouni; Jawad Rasheed; Adem Özyavas; Zaynep Orman</i>	
ENSEMBLE LEARNING MODELS FOR SHORT-TERM ELECTRICITY DEMAND FORECASTING	291
<i>Ahmed Ghareeb; Hussein Al-Bayaty; Qubad Haseeb; Mohammed Zeinalabideen</i>	
A REVIEW OF CONDITION MONITORING AND FAULT DIAGNOSIS AND DETECTION OF ROTATING MACHINERY BASED ON IMAGE ASPECTS.....	296
<i>Omar Alshorman; Mahmoud Masadeh; Fahad Alkahtani; Ahmad Alshorman</i>	
AN INTELLIGENT AGRICULTURAL FIELD MONITORING AND MANAGEMENT SYSTEM USING INTERNET OF THINGS AND MACHINE LEARNING.....	301
<i>Pramod Mathew Jacob; Sravan Suresh; Juna Maria John; Parvathy Nath; Parvathy Nandakumar; Santhosh Simon</i>	
ANALYSIS OF SOFTWARE VULNERABILITIES USING EXPLORATORY DATA ANALYSIS (EDA).....	306
<i>Raguvir S; Shekar Babu</i>	
ENHANCE EMPLOYEE PRODUCTIVITY USING TALENT ANALYTICS AND VISUALIZATION	310
<i>S. Raguvir; Shekar Babu</i>	
IDENTIFICATION OF ASTHMA SEVERITY USING WAVELET TRANSFORM AND K- NEAREST-NEIGHBOUR CLASSIFIER.....	315
<i>Fizza Ghulam Nabi; Kenneth Sundaraj; Rajkumar Palaniappan</i>	
MACHINE LEARNING FOR PREDICTING PEROVSKITE SOLAR CELL OPTO-ELECTRONIC PROPERTIES.....	319
<i>Maniell Workman; David Zhi Chen; Sarhan M. Musa</i>	

COMPARING SEQUENTIAL AND PARALLEL WORD COUNTING METHODS IN FINDING COMMONLY USED WORDS BY DIFFERENT AUTHORS	324
<i>Zahra Mohamed; Abdulla Alqaddoumi</i>	
APPLYING PARALLEL PROCESSING TO IMPROVE THE COMPUTATION SPEED OF K-NEAREST NEIGHBOR ALGORITHM	328
<i>Maha A. Alanezi; Abdulla Alqaddoumi</i>	
ANALYSIS OF A WARRANTY-BASED QUALITY MANAGEMENT SYSTEM IN THE CONSTRUCTION INDUSTRY	334
<i>Mohammad Nagahisarchoghaei; Justin Dodd; Morteza Nagahi; Ghodsieh Ghanbari; Sujana Poudyal</i>	
TWEETS SENTIMENT ANALYSIS DURING COVID-19 PANDEMIC.....	339
<i>Maha A. Alanezi; Nabil M. Hewahi</i>	
DETERMINING THE EFFECTS OF EARTHQUAKES THROUGH COMMENTS ON SOCIAL FORUMS	345
<i>Ahmet Anil Müngen; Mehmet Kaya</i>	
A NEW APPROACH OF STAFF LINES REMOVAL FOR MANUSCRIPT DOCUMENTS	349
<i>Tahar Mekhaznia; Chawki Djeddi; Amer Bensefia; Akhtar Jamil</i>	
RANDOM FOREST VS. SVM VS. KNN IN CLASSIFYING SMARTPHONE AND SMARTWATCH SENSOR DATA USING CRISP-DM.....	354
<i>Sadiq Jaffer Saleh; Sayed Qasim Ali; Ahmed M. Zeki</i>	
INCREMENTAL OUTLIER DETECTION IN AIR QUALITY DATA USING STATISTICAL METHODS.....	358
<i>Manish Mahajan; Santosh Kumar; Bhasker Pant; Umesh Kumar Tiwari</i>	
COMPARING NAÏVE BAYES, DECISION TREE AND LOGISTIC REGRESSION METHODS IN FRAUDULENT CREDIT CARD TRANSACTIONS	363
<i>Maha A. Alanezi; Mawra T. Homeed; Zahra S. Mohamed; Ahmed M. Zeki</i>	
PROPOSED MOBILE APPLICATION FOR ISLAMIC FINTECH E-SALAM SYSTEM AN APPROACH TO THE FINANCIAL INCLUSION.....	368
<i>Mohammad Hamad Allaymoun; Omer Awad Hag Hamid</i>	
THE SYNERGIC RELATIONSHIP BETWEEN E-COMMERCE AND SENTIMENT ANALYSIS: A CONTENT ANALYSIS OF PUBLISHED ARTICLES BETWEEN 2007 AND 2020.....	373
<i>M. A. Casas-Valadez; A. Faz-Mendoza; C. E. Medina-Rodríguez; R. Castañeda-Miranda; N. K. Gamboa-Rosales; J. R. López-Robles</i>	
COVID-19 DETECTION USING DEEP LEARNING METHODS	378
<i>Mehmet Sevi; İlhan Aydin</i>	
BOOK RECOMMENDATION FOR ELEARNING USING COLLABORATIVE FILTERING AND SEQUENTIAL PATTERN MINING.....	383
<i>Taushif Anwar; V. Uma; Shahjad</i>	
APPLICATION OF ADAPTIVE BACK-PROPAGATION NEURAL NETWORKS FOR PARKINSON'S DISEASE PREDICTION.....	389
<i>Jawad Rasheed; Alaa Ali Hameed; Naim Ajlouni; Akhtar Jamil; Adem Özyavas; Zeynep Orman</i>	
HAND IMAGE-BASED HUMAN AGE ESTIMATION USING A TIME DISTRIBUTED CNN-GRU.....	394
<i>Mohamed Ait Abderrahmane; Ibrahim Guelzim; Abdelkafer Ait Abdelouahad</i>	
IMPACT OF NORMALIZATION ON BILSTM BASED MODELS FOR ENERGY DISAGGREGATION.....	399
<i>Mohammed Ayub; El-Sayed M. El-Alfy</i>	
ANN BASED CRIME DETECTION AND PREDICTION USING TWITTER POSTS AND WEATHER DATA	405
<i>S. P. C. W Sandagiri; B. T. G. S Kumara; Banujan Kuhaneswaran</i>	
DETERMINATION OF SWEETNESS LEVEL OF MUNTINGIA CALABURA USING HSV COLORSPACE.....	410
<i>Mary Anne M. Sahagun</i>	
AN INTEGRATED BLOCKCHAIN APPROACH TO MODEL SECURE INTERNET OF THINGS BASED SYSTEMS	415
<i>Pramod Mathew Jacob; Prasanna Mani; Santhosh Simon; Renju Rachel Varghese; Kuruvilla John; Nisha Aniyana</i>	
SKYLINE COMPUTATION ON MULTICORE ARCHITECTURES: A SURVEY	420
<i>Walid Khames; Allel Hadjali; Mohand Lagha</i>	
QUANTUM CIRCUITS FOR BINARY CONVOLUTION.....	426
<i>Hasan Yetis; Mehmet Karaköse</i>	
EARLY DETECTION OF ALZHEIMER'S DISEASE BASED ON SINGLE NUCLEOTIDE POLYMORPHISMS (SNPS) ANALYSIS AND MACHINE LEARNING TECHNIQUES	431
<i>Hala Ahmed; Hassan Soliman; Mohammed Elmogy</i>	

DIGITAL FORENSIC EVIDENCE - THE MISSING LINK IN THREAT MODELING	437
<i>Asif Iqbal; Johannes Olegård; Ranjana Ghimire</i>	
A HYBRID APPROACH FOR LINGUISTIC SUMMARIZATION OF TIME SERIES	442
<i>Khedidja Boulanouar; Allel Hadjali; Mohand Lagha</i>	
IMPROVING STOCK PREDICTION ACCURACY USING CNN AND LSTM	447
<i>Jawad Rasheed; Akhtar Jamil; Alaa Ali Hameed; Muhammad Ilyas; Adem Özyavas; Naim Ajlouni</i>	
IMAGE PROCESSING BASED APPROACH FOR CRIME SCENE INVESTIGATION USING DRONE	452
<i>Alper Gur; Mehmet Erim; Mehmet Karakose</i>	
ANALYSIS OF BUSINESS INTELLIGENCE IMPACT ON ORGANIZATIONAL PERFORMANCE	458
<i>Shahnawaz Khan; Mohamed Redha Qader; K. Thirunavukkarasu; Satheesh Abimannan</i>	
AUTOMATED CENSORABLE CONTENT IDENTIFICATION IN VIDEOS USING DEEP LEARNING	462
<i>Arul Treesa Mathew; Chenju Merin Thomas; Akhil G. Krishnan; U. Ganesh; Sneha Saibu; Thasni M. Salim</i>	
A CO-SCHEDULING SYSTEM FOR FOG-NODE RECOMMENDATION AND LOAD MANAGEMENT IN CLOUD-FOG ENVIRONMENT (COS_FRLM)	468
<i>K. Jairam Naik</i>	
SUPPORTING TOOL FOR THE TRANSITION OF EXISTING SMALL AND MEDIUM ENTERPRISES TOWARDS INDUSTRY 4.0	474
<i>Miguel Baritto; Md Mashum Billal; S. M. Muntasir Nasim; Rumana Afroz Sultana; Mohammad Arani; Ahmed Jawad Qureshi</i>	
A NEW EMBEDDED SURVEILLANCE SYSTEM FOR REDUCING COVID-19 OUTBREAK IN ELDERLY BASED ON DEEP LEARNING AND IOT	479
<i>Nashwan Adnan Othman; Mustafa Zuhaer Nayef Al-Dabagh; Ilhan Aydin</i>	
BLOCKCHAIN APPLICATION IN MASS CUSTOMIZATION: A FURNITURE SECTOR EXAMPLE	485
<i>Nursena Baygin; Mehmet Baygin; Mehmet Karaköse</i>	
REGION PROPOSAL AND OBJECT DETECTION USING HOG-BASED CNN FEATURE MAP	490
<i>Anima Pramanik; Harshvardhan; Chawki Djeddi; Sobhan Sarkar; J. Maiti</i>	
DIABETIC RETINOPATHY GRADING BASED ON A HYBRID DEEP LEARNING MODEL	495
<i>Eman Abdelmaksoud; Sherif Barakat; Mohammed Elmogy</i>	
HUMAN AGE PREDICTION BASED ON HAND IMAGE USING MULTICLASS CLASSIFICATION	501
<i>Mohamed Ait Abderrahmane; Ibrahim Guelzim; Abdelkafer Ait Abdelouahad</i>	
LIVER SEGMENTATION USING FAST-GENERALIZED FUZZY C-MEANS (FG-FCM) FROM CT SCANS	506
<i>Yasmeen Al-Saeed; Hassan Soliman; Mohammed Elmogy</i>	
FACE MASK DETECTION USING MOBILENETV2 IN THE ERA OF COVID-19 PANDEMIC	512
<i>Samuel Ady Sanjaya; Suryo Adi Rakhmawan</i>	
DECISION MAKING USING INTERNET OF THINGS AND MACHINE LEARNING: A BIBLIOMETRIC APPROACH TO TRACKING MAIN RESEARCH THEMES	517
<i>N. K. Gamboa-Rosales; A. Castorena-Robles; M. A. Casas-Valadez; M. J. Cobo; R. Castañeda-Miranda; J. R. López-Robles</i>	
DETECTION OF MALAYSIAN TRAFFIC SIGNS VIA MODIFIED YOLOV3 ALGORITHM	522
<i>Wan-Noorshahida Mohd-Isa; Md-Shakif Abdullah; Mahmood Sarzil; Junaidi Abdullah; Aziah Ali; Noramiza Hashim</i>	
TREE-BASED METHODS FOR LOAN APPROVAL	527
<i>Mohamed Alaradi; Sawsan Hilal</i>	
THE CYBER SECURITY IN THE AGE OF TELEWORK: A DESCRIPTIVE RESEARCH FRAMEWORK THROUGH SCIENCE MAPPING	533
<i>C. E. Medina-Rodríguez; M. A. Casas-Valadez; A. Faz-Mendoza; R. Castañeda-Miranda; N. K. Gamboa-Rosales; J. R. López-Robles</i>	
SOFTWARE DEFECTS PREDICTION USING MACHINE LEARNING ALGORITHMS	538
<i>Marwa Assim; Qasem Obeidat; Mustafa Hammad</i>	
PARALLEL PROGRAMMING FOR CLASSIFICATION ALGORITHMS USING LOGISTIC REGRESSION AND ARTIFICIAL NEURAL NETWORKS: FRAMEWORK AND APPLICATIONS	544
<i>Mohamed Almansoor; Mohamed Alaradi; Abdulla Alqaddoumi</i>	
IMPACT OF OVERSAMPLING ON THE CLASSIFICATION OF READILY BIODEGRADABLE MATERIALS	550
<i>Abhilash George; Maya John</i>	

PROPOSING ADDITIONAL INDICATORS RELATED TO COVID-19 TO THE CHILDREN'S SOCIAL VULNERABILITY INDEX IN INDONESIA	555
<i>Hernanto Adwiluvito; Suryo Adi Rakhmawan</i>	
RISK BASED PAYMENT INTEGRITY EVALUATION	560
<i>Tahir Ekin; Greg Lakomski</i>	
REINFORCEMENT LEARNING WITH THE CLASSICAL Q-LEARNING ALGORITHM FOR OPTIMIZING SINGLE INTERSECTION PERFORMANCE	566
<i>M. Rosyidi; Sahid Bismantoko; Tri Widodo</i>	
USING MLP PARTIAL RESPONSES TO EXPLAIN IN-HOSPITAL MORTALITY IN ICU	571
<i>Ivan Olier; Annabel Sansom; Paulo Lisboa; Sandra Ortega-Martorell</i>	
PREDICTION OF STOCK PRICE AND DIRECTION USING NEURAL NETWORKS: DATASETS HYBRID MODELING APPROACH	576
<i>Mohamed Al Aradi; Nabil Hewahi</i>	
ASSESSING THE IMPACT OF TEXT PREPROCESSING IN SENTIMENT ANALYSIS OF SHORT SOCIAL NETWORK MESSAGES IN THE RUSSIAN LANGUAGE	582
<i>Egor Arastanov; Evgeniy Komotskiy; Ebenezer Agbozo</i>	
FEMALE BOARD DIRECTORS AND CORPORATE FINANCIAL PERFORMANCE - A GCC EMPIRICAL EVIDENCE	586
<i>Gehan A. Mousa; Abdelmohsen M. Desoky; Elsayed A. H. Elamir</i>	
A SURVEY ON CLOUD-BASED DISTRIBUTED COMPUTING SYSTEM FRAMEWORKS	591
<i>Ahmed Alalawi; Alauddin Al-Omary</i>	
CLOUD COMPUTING RESOURCES: SURVEY OF ADVANTAGE, DISADVANTAGES AND PRICING	597
<i>Ahmed Alalawi; Alauddin Al-Omary</i>	
INTEGRATING WIRELESS SENSOR NETWORKS WITH CLOUD COMPUTING, A SURVEY	603
<i>Afrah Ali; Alauddin Al-Omary</i>	
AN EMPIRICAL EXAMINATION ON THE DEGREE OF ACCOUNTING HARMONIZATION OF PPE AND INVENTORY	609
<i>Ali S. Bukhammas; Abdelmohsen M. Desoky</i>	
SECURITY AND POWER MANAGEMENT IN IOT AND FOG COMPUTING: A SURVEY	615
<i>Ali Hameed Mohsin; Alauddin Al Omary</i>	
PERVASIVE COMPUTING PARADIGM: A SURVEY	621
<i>Khadija Abdulsattar; Alauddin Al-Omary</i>	
Author Index	