

2021 26th International Computer Conference, Computer Society of Iran (CSICC 2021)

**Tehran, Iran
3 – 4 March 2021**



**IEEE Catalog Number: CFP2192G-POD
ISBN: 978-1-6654-2961-0**

**Copyright © 2021 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:	CFP2192G-POD
ISBN (Print-On-Demand):	978-1-6654-2961-0
ISBN (Online):	978-1-6654-1241-4

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

CLICK-THROUGH RATE PREDICTION USING FEATURE ENGINEERED BOOSTING ALGORITHMS.....	1
<i>Mohamadreza Bakhtyari, Sayeh Mirzaei</i>	
DPSA: A BRIEF REVIEW FOR DESIGN PATTERN SELECTION APPROACHES.....	6
<i>Amene Naghdipour, Seyed Mohammad Hossein Hasheminejad, Mohammad Reza Keyvanpour</i>	
ONTOLOGY-BASED DESIGN PATTERN SELECTION	12
<i>Amene Naghdipour, Seyed Mohammad Hossein Hasheminejad</i>	
EFFECTIVE SYNTHETIC DATA GENERATION FOR FAKE USER DETECTION.....	19
<i>Arefeh Esmaili, Saeed Farzi</i>	
A HIERARCHICAL METHOD FOR KANNADA-MNIST CLASSIFICATION BASED ON CONVOLUTIONAL NEURAL NETWORKS.....	24
<i>Ali Beikmohammadi, Najmeh Zahabi</i>	
DUPLICATED REPLAY BUFFER FOR ASYNCHRONOUS DEEP DETERMINISTIC POLICY GRADIENT.....	30
<i>Seyed Mohammad Seyed Motehayeri, Vahid Baghi, Ehsan Maani Miandoab, Ali Moeini</i>	
TRANSFER LEARNING FOR END-TO-END ASR TO DEAL WITH LOW-RESOURCE PROBLEM IN PERSIAN LANGUAGE	36
<i>Maryam Asadolahzade Kermanshahi, Ahmad Akbari, Babak Nasersharif</i>	
IMPROVING RANKING FUNCTION AND DIVERSIFICATION IN INTERACTIVE RECOMMENDATION SYSTEMS BASED ON DEEP REINFORCEMENT LEARNING.....	41
<i>Vahid Baghi, Seyed Mohammad Seyed Motehayeri, Ali Moeini, Rooholah Abedian</i>	
A GEOMETRIC ALGORITHM FOR FAULT-TOLERANT CLASSIFICATION OF COVID-19 INFECTED PEOPLE	48
<i>Farnaz Sheikhi, Sharareh Alipour</i>	
A NOVEL WIRELESS NETWORK-ON-CHIP ARCHITECTURE FOR MULTICORE SYSTEMS.....	53
<i>Esmael Tahanian, Mohsen Rezvani, Mansoor Fateh</i>	
DESIGNING A NEW METHOD FOR DETECTING MONEY LAUNDERING BASED ON SOCIAL NETWORK ANALYSIS	61
<i>Maryam Mahootiha, Alireza Hashemi Golpayegani, Babak Sadeghian</i>	
SIN: A PROGRAMMABLE PLATFORM FOR SWARM ROBOTICS	68
<i>Ali Foroutannia, Milad Shoryabi, Amirali Alizadeh Anaraki, Alireza Rowhanimesh</i>	
A SEMANTIC-BASED FEATURE EXTRACTION METHOD USING CATEGORICAL CLUSTERING FOR PERSIAN DOCUMENT CLASSIFICATION	73
<i>Saeedeh Davoudi, Sayeh Mirzaei</i>	
PREDICTION OF PROTEIN-PEPTIDE-BINDING AMINO ACID RESIDUES REGIONS USING MACHINE LEARNING ALGORITHMS.....	78
<i>Shima Shafiee, Abdolhossein Fathi</i>	

GRAPH REPRESENTATION LEARNING IN A CONTRASTIVE FRAMEWORK FOR COMMUNITY DETECTION.....	84
<i>Mehdi Balouchi, Ali Ahmadi</i>	
IDENTIFYING THE RELATIONSHIP BETWEEN HUMAN SELF-ESTEEM AND GENERAL HEALTH USING DATA MINING	89
<i>Milad Motallebi Shabestari, Ali Ahmadi</i>	
INVESTIGATION OF THE PLACE OF BIAN STANDARD IN DIGITAL BANKING ENTERPRISE ARCHITECTURE	94
<i>Narjes Farzi</i>	
REUSABILITY METRICS IN SEARCH-BASED TESTING OF SOFTWARE PRODUCT LINES: AN EXPERIMENTATION	99
<i>Masoud Fathi, Sedigheh Khoshnevis</i>	
SEMANTIC SEGMENTATION OF AUTONOMOUS DRIVING IMAGES BY THE COMBINATION OF DEEP LEARNING AND CLASSICAL SEGMENTATION	105
<i>Mohammad Hosein Hamian, Ali Beikmohammadi, Ali Ahmadi, Babak Nasersharif</i>	
SOLVING NAVIGATION AND OBSTACLE AVOIDANCE IN SOCCER ROBOT USING CASE-BASE REASONING TECHNIQUE.....	111
<i>Seyed Omid Azarkasb, Seyed Hossein Khasteh</i>	
A NETWORK INTRUSION DETECTION APPROACH AT THE EDGE OF FOG.....	117
<i>Seyed Omid Azarkasb, Saeed Sedighian Kashi, Seyed Hossein Khasteh</i>	
A NEW APPROACH FOR MAPPING OF SOCCER ROBOT AGENTS POSITION TO REAL FILED BASED ON MULTI-CORE FUZZY CLUSTERING.....	123
<i>Seyed Omid Azarkasb, Seyed Hossein Khasteh</i>	
SOLVING TSP PROBLEM IN CLOUD COMPUTING USING IMPROVED CULTURAL ALGORITHM.....	128
<i>Seyed Omid Azarkasb, Seyed Hossein Khasteh, Saeed Sedighian Kashi</i>	
WATER CYCLE ALGORITHM-BASED CONTROL FOR OPTIMAL CONSENSUS PROBLEM.....	135
<i>Ramin Fotouhi, Mahdi Pourgholi</i>	
DE-GCN: DIFFERENTIAL EVOLUTION AS AN OPTIMIZATION ALGORITHM FOR GRAPH CONVOLUTIONAL NETWORKS	140
<i>Shakiba Tasharrofi, Hassan Taheri</i>	
A METHOD FOR RATE-DISTORTION-COMPLEXITY OPTIMIZATION IN VERSATILE VIDEO CODING STANDARD	146
<i>Amir Rezaeieh, Hoda Roodaki</i>	
MULTIVARIATE TIME-SERIES PREDICTION USING LSTM NEURAL NETWORKS	151
<i>Reza Ghanbari, Keivan Borna</i>	
SPEED UP CASSANDRA READ PATH BY USING COORDINATOR CACHE	156
<i>Latifa Azizi Vakili, Nasser Yazdani</i>	
CONTENT-BASED CLOTHING RECOMMENDER SYSTEM USING DEEP NEURAL NETWORK.....	161
<i>Narges Yarahmadi Gharaei, Chitra Dadkhah, Lorence Daryoush</i>	

STATIC DETECTION OF RANSOMWARE USING LSTM NETWORK AND PE HEADER	167
<i>Farnoush Manavi, Ali Hamzeh</i>	
DESIGN OF AN IOT-BASED FLOOD EARLY DETECTION SYSTEM USING MACHINE LEARNING.....	172
<i>Fatereh Sadat Mousavi, Saleh Yousefi, Hiran Abghari, Ardalan Ghasemzadeh</i>	
GITCBOT: A NOVEL APPROACH FOR THE NEXT GENERATION OF C&C MALWARE.....	179
<i>Saeid Ghasemshirazi, Ghazaleh Shirvani</i>	
SENTIMENT ANALYSIS OF PERSIAN-ENGLISH CODE-MIXED TEXTS	185
<i>Nazanin Sabri, Ali Edalat, Behnam Bahrak</i>	
AUTOMATIC PERSONALITY PERCEPTION USING AUTOENCODER AND HIERARCHICAL FUZZY CLASSIFICATION	189
<i>Effat Jalaeian Zaferani, Mohammad Teshnehlab, Mansour Vali</i>	
PARSBERT POST-TRAINING FOR SENTIMENT ANALYSIS OF TWEETS CONCERNING STOCK MARKET	196
<i>Mohammadjalal Pouromid, Arman Yekkehkhani, Mohammadreza Asghari Oskoei, Amin Aminimehr</i>	
POLARIMETRIC SAR CLASSIFICATION USING RIDGE REGRESSION-BASED POLARIMETRIC-SPATIAL FEATURE EXTRACTION.....	200
<i>Maryam Imani</i>	
A NEURO-FUZZY CLASSIFIER BASED ON EVOLUTIONARY ALGORITHMS.....	205
<i>Amir Soltany Mahboob, Mohammad Reza Ostadi Moghaddam</i>	
INTELLIGENT CONTROL OF URBAN INTERSECTION TRAFFIC LIGHT BASED ON REINFORCEMENT LEARNING ALGORITHM	212
<i>Moein Raeisi, Amir Soltany Mahboob</i>	
A PRACTICAL SYSTEM BASED ON CNN-BLSTM NETWORK FOR ACCURATE CLASSIFICATION OF ECG HEARTBEATS OF MIT-BIH IMBALANCED DATASET.....	217
<i>Armin Shoughi, Mohammad Bagher Dowlatshahi</i>	
STOCHASTIC SPINTRONIC NEURON WITH APPLICATION TO IMAGE BINARIZATION	223
<i>Abdolah Amirany, Masoud Meghdadi, Mohammad Hossein Moaiyeri, Kian Jafari</i>	
SUBSPACE OUTLIER DETECTION IN HIGH DIMENSIONAL DATA USING ENSEMBLE OF PCA-BASED SUBSPACES	228
<i>Mahboobeh Riahi-Madvar, Babak Nasersharif, Ahmad Akbari Azirani</i>	
IMPLEMENTING A SCALABLE DATA MANAGEMENT SYSTEM FOR COLLECTED DATA BY SMART METERS.....	233
<i>Farzane Farahani, Fatemeh Rezaei</i>	
A MOBILITY-AWARE CACHING SCHEME IN HETEROGENEOUS CELLULAR NETWORKS.....	238
<i>Seyyed Amir Ahmad Siahpoosh, Fatemeh Rezaei</i>	
SIGNIFICANTLY IMPROVING HUMAN DETECTION IN LOW-RESOLUTION IMAGES BY RETRAINING YOLOV3.....	242
<i>Shima Pouyan, Mostafa Charmi, Ali Azarpeyvand, Hossein Hassanpoor</i>	

A NOVEL DESIGN OF QUANTUM 3:8 DECODER CIRCUIT USING REVERSIBLE LOGIC FOR IMPROVEMENT IN KEY QUANTUM CIRCUIT DESIGN PARAMETERS	248
<i>Seyyed Mohammad Amir Mirizadeh, Mohammad Mahdi Emadi Kouchak, Mohammad Mahdi Panahi</i>	
TOPOLOGY-AWARE GRAPH SIGNAL SAMPLING FOR POOLING IN GRAPH NEURAL NETWORKS.....	253
<i>Amirhossein Nouranizadeh, Mohammadjavad Matinkia, Mohammad Rahmati</i>	
A NOVEL METHOD FOR DETECTING FAKE NEWS: DEEP LEARNING BASED ON PROPAGATION PATH CONCEPT	260
<i>Fatemeh Torgheh, Mohammad Reza Keyvanpour, Behrooz Masoumi, Seyed Vahab Shojaedini</i>	
ATTRIBUTE-IMAGE SIMILARITY MEASURE FOR MULTIMODAL ATTENTION MECHANISM.....	265
<i>Ali Salehi Najafabadi, Ali Nadian-Ghomsheh</i>	
SPATIO-TEMPORAL 3D ACTION RECOGNITION WITH HIERARCHICAL SELF-ATTENTION MECHANISM	271
<i>Soheil Araei, Ali Nadian-Ghomsheh</i>	
RANKING SYNTHETIC FEATURES FOR GENERATIVE ZERO-SHOT LEARNING	276
<i>Shayan Ramazi, Ali Nadian-Ghomsheh</i>	
LEARNING TO PREDICT SOFTWARE TESTABILITY	281
<i>Morteza Zakeri Nasrabadi, Saeed Parsa</i>	
ASPECTS EXTRACTION FOR ASPECT LEVEL OPINION ANALYSIS BASED ON DEEP CNN	286
<i>Ali Alemi Matin Pour, Saeed Jalili</i>	
AN SDN-BASED FIREWALL FOR NETWORKS WITH VARYING SECURITY REQUIREMENTS	292
<i>Ghazal Rezaei, Massoud Reza Hashemi</i>	
INJECTION SHILLING ATTACK TOOL FOR RECOMMENDER SYSTEMS	299
<i>Fatemeh Rezaimehr, Chitra Dadkhah</i>	
THE EFFECT OF INCREASING THE ALGEBRAIC CONNECTIVITY ON CASCADING FAILURES IN POWER GRID NETWORKS	303
<i>Zahra Nekudari, Abdorasoul Ghasemi</i>	
A MODEL-BASED ON FILTRATION TECHNIQUE FOR SPECKLE NOISE REMOVAL FROM ULTRASOUND IMAGES	307
<i>Maryam Mohammadi, Reza Mokhtari</i>	
THE IMPROVED GREEDY GANG SCHEDULING BY MINIMIZING CONTEXT SWITCH CONDITION.....	312
<i>Maryam Sadat Mastroori, Ghazal Rahmanian</i>	
ZERO-SHOT ESTIMATION OF BASE MODELS' WEIGHTS IN ENSEMBLE OF MACHINE READING COMPREHENSION SYSTEMS FOR ROBUST GENERALIZATION	317
<i>Razieh Baradaran, Hossein Amirkhani</i>	
THE EFFECT OF USING MASKED LANGUAGE MODELS IN RANDOM TEXTUAL DATA AUGMENTATION.....	322
<i>Mohammad Amin Rashid, Hossein Amirkhani</i>	

A PRACTICAL RESOURCE MANAGEMENT PROTOTYPE FOR MOBILE NETWORKS.....	327
<i>M. A. Nourian, A. Kusedghi, A. Akbari</i>	
AN ALGORITHM FOR OPTIMIZING SMALL-LARGE OUTER JOIN IN CLOUD COMPUTING ENVIRONMENT	333
<i>Farshad Delavarpour, Ali Ahmadi</i>	
HEIGHTMAP RECONSTRUCTION OF MACULA ON COLOR FUNDUS IMAGES USING CONDITIONAL GENERATIVE ADVERSARIAL NETWORKS	338
<i>Peyman Tahghighi, Reza A. Zoroofi, Sare Safi, Alireza Ramezani, Hamid Ahmadi</i>	
ANALYSIS OF INCENTIVE MECHANISM IN REPCHAIN.....	344
<i>Mojdeh Hemati, Mehdi Shajari</i>	
PERMUTE: RESPONSE TIME AND ENERGY AWARE VIRTUAL MACHINE PLACEMENT FOR CLOUD DATA CENTERS.....	349
<i>Benyamin Eslami, Morteza Biabani, Mohsen Shekarisaz, Nasser Yazdani</i>	
IDENTITY RECOGNITION BASED ON CONVOLUTIONAL NEURAL NETWORKS USING GAIT DATA	356
<i>F. Faraji, F. Lotfi, M. Majdolhosseini, M. Jafarian, H. D. Taghirad</i>	
SECURE DETERMINING OF THE K-TH GREATEST ELEMENT AMONG DISTRIBUTED PRIVATE VALUES	362
<i>Mehrad Jaber, Hamid Mala</i>	
A FACE-MASK DETECTION APPROACH BASED ON YOLO APPLIED FOR A NEW COLLECTED DATASET.....	367
<i>Sahand Abbasi, Haniyeh Abdi, Ali Ahmadi</i>	
A NEW DISEASE CANDIDATE GENE PRIORITIZATION METHOD USING GRAPH CONVOLUTIONAL NETWORKS.....	373
<i>Saeid Azadifar, Ali Ahmadi</i>	
FT-LFSR: A FAULT TOLERANT ARCHITECTURE FOR LINEAR FEEDBACK SHIFT REGISTERS.....	378
<i>Mohammad Zaree, Mohsen Raji</i>	
LEVERAGING PARSBERT AND PRETRAINED MT5 FOR PERSIAN ABSTRACTIVE TEXT SUMMARIZATION	384
<i>Mehrdad Farahani, Mohammad Gharachorloo, Mohammad Manthouri</i>	
A MULTI-CLASSIFIER SYSTEM FOR ROCK MASS CRACK SEGMENTATION BASED ON CONVOLUTIONAL NEURAL NETWORKS.....	390
<i>Mohammadreza Asadi, Mohammad Taghi Sadeghi, Alireza Yarahmadi Bafghi</i>	
A NEW FRAGILE WATERMARKING BASED ON DISTRIBUTED HAMMING CODE.....	396
<i>Faeze Rasouli, Mohammad Taheri</i>	
ON THE POSSIBILITY OF CREATING SMART CONTRACTS ON BITCOIN BY MPC- BASED APPROACHES	401
<i>Ahmad Jahanbin, Mohammad Sayad Haghighi</i>	
CHANNEL ESTIMATION USING BLOCK SPARSE JOINT ORTHOGONAL MATCHING PURSUIT IN MASSIVE MIMO SYSTEMS.....	408
<i>Nasser Sadeghi, Masoumeh Azghani</i>	

FINE-GRAIN COMPUTATION OFFLOADING CONSIDERING APPLICATION COMPONENTS' SEQUENCING	413
<i>Razie Roostaei, Marzieh Sheikhi, Zeinab Movahedi</i>	
FUZZY OPTIMAL CONTROL APPROACH IN LOW-THRUST ORBIT TRANSFER PROBLEM	418
<i>Aliakbar Razavi, Amirreza Kosari</i>	
A DIGITAL MATURITY MODEL FOR DIGITAL BANKING REVOLUTION FOR IRANIAN BANKS	425
<i>Faezeh Goumeh, Ahmad Abdollahzadeh Barforoush</i>	
DESIGN AND SIMULATION OF OR LOGIC GATE USING RF MEMS RESONATORS	431
<i>Mahdi Attar, Reza Askari Moghadam, Alireza Rezaee</i>	
A RECURRENT NEURAL NETWORK APPROACH TO MODEL FAILURE RATE CONSIDERING RANDOM AND DETERIORATING FAILURES	437
<i>Ali Alizadeh, Navid Malek Alayi, Alireza Fereidunian, Hamid Lesani</i>	
SOLVING MINIMUM DOMINATING SET IN MULTIPLEX NETWORKS USING LEARNING AUTOMATA	444
<i>Mohammad Mehdi Daliri Khomami, Alireza Rezvanian, Ali Mohammad Saghiri, Mohammad Reza Meybodi</i>	
AN IMPROVED DISTRIBUTED ACCESS CONTROL MODEL IN CLOUD COMPUTING BY BLOCKCHAIN	450
<i>Akram Sabzmakan, Seyedeh Leili Mirtaheri</i>	
TELEGRAM GROUP RECOMMENDATION BASED ON USERS' MIGRATION	454
<i>Davod Karimpour, Mohammad Ali Zare Chahooki, Ali Hashemi</i>	
USER RECOMMENDATION BASED ON HYBRID FILTERING IN TELEGRAM MESSENGER	460
<i>Davod Karimpour, Mohammad Ali Zare Chahooki, Ali Hashemi</i>	
FEATURE SELECTION IN MULTI-LABEL CLASSIFICATION BASED ON BINARY QUANTUM GRAVITATIONAL SEARCH ALGORITHM	467
<i>Hojat Noormohammadi, Mohammad Bagher Dowlatshahi</i>	
OPTIMAL ATM CASH REPLENISHMENT PLANNING IN A SMART CITY USING DEEP Q-NETWORK	473
<i>Mohammadhossein Kiyaei, Farkhondeh Kiaee</i>	
A 3D DEEP LEARNING APPROACH FOR CLASSIFICATION OF GAIT ABNORMALITIES USING MICROSOFT KINECT V2 SENSOR	478
<i>Milad Shoryabi, Ali Foroutannia, Alireza Rowhanimesh</i>	

Author Index