

2021 4th International Iraqi Conference on Engineering Technology and its Applications (IICETA 2021)

**Najaf, Iraq
21 – 22 September 2021**



**IEEE Catalog Number: CFP21P65-POD
ISBN: 978-1-6654-9462-5**

**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:	CFP21P65-POD
ISBN (Print-On-Demand):	978-1-6654-9462-5
ISBN (Online):	978-1-6654-9461-8

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

4th International Iraqi Conference on Engineering Technology and Their Applications (IICETA-2021), Islamic University, AL-Najaf, Iraq

Table of Contents

No.	Title of Papers	Authors Name	Page No.
1-	A Comprehensive Survey on Software-Defined Networking Load Balancers	Thaeer Ghyadh Thajeel Aladdin Abdulhassan	1-7
2-	A Geolocated Dataset of COVID-19 Pandemic: Tweets with Location Information	Iqbal AbdulBaki Mohammed Ahmed Saleem Abbas	8-14
3-	A model for Reducing Total Quality Costs Design to Obtain Product Quality Improvement	Batool Atiyah Khalaf ; Wakas S. Khalaf; Aisha Hammody Hisham	15-20
4-	A Proposed System for Magnetic Characteristics Determination of Ferrite Core	Aziz Sh. Hamad Murtadha S. Kadhim Isam M. Abdulbaqi	21-26
5-	Accurate hand gestures recognition through plastic barrier based on Doppler frequency using latent Dirichlet allocation classifier	Ghufran M. Hatem Hussein A. Hussein AL-Delfi Aseel Ghazi Mahmoud Thamir R. Saeed Shaymaa A. Mohammed Hussain M. Alshamy Ibrahim H. Al-Kharsan	27-32
6-	An Effective and Accurate CNN Model for Detecting Tomato Leaves Diseases	Jumana Waleed Saad Albawi Hayder Qasim Flayyih Ahmed Alkhayyat	33-37
7-	An Effective Graphical Password Authentication Method in Health Care Sectors	Ammar Hameed Shnain Hayder M. A. Ghanimi Wasan Abdulwahab Mohammed Manhal Isam Sabri Sarah Hadi shaheed	38-41
8-	An Iron-Cored Transformer Magnetic Characteristics Measuring Circuit	Dheia N. Khadum Majida Khaleel Ahmed Isam M. Abdulbaqi Ibrahim H. Al-Kharsan	42-46
9-	Breaking A Playfair Cipher Using Single and Multipoints Crossover Based on Heuristic Algorithms	Maitham Ali Naji Hayfaa Abdulzahra Atee Rusul Sabah Jebur Dalal Abdulmohsin Hammood Chen Soong Der Ali S. Abosinnee	47-53

		Abidulkarim K I. Yasari R. Bdlishah Ahmad	
10-	Challenges and Solutions of 5G Technology	Ahmed A. Thabit Bassam H. Abd, Ahmed Alkhayyat	54-59
11-	Comparison of using photovoltaic system and diesel generator to feed the desired load	Ali Nasser Hussain Mimouna Abid Zuhair S. Al-Sagar Qusay Hassan Majid Khudair Abbas Al-Tamimi Karrar Saadoon AL-Abbooda	60-67
12-	Comprehensive Study of Moving from Grid and Cloud Computing Through Fog and Edge Computing towards Dew Computing	Zainab Salih Ageed Subhi R. M. Zeebaree Mohammed A. M.Sadeeq Hanan M. Shukur Ahmed Alkhayyat Rowaida Khalil Ibrahim	68-74
13-	Cooperative Protocol For Health-Care in IoT	Özgür Ertuğ Nihat Alkan	75-80
14-	Current Sensor Based on Planar Rogowski Coil	K A Khalid A. N. Nanyan M. I. Fahmi Muhammad Zaid Aihsan; Wan Azani Mustafa Hasliza A Rahim Raed H.C. Alfith	81-86
15-	Design a Clustering Document based Semantic Similarity System using TFIDF and K-Mean	Rowaida Khalil Ibrahim Karwan Jacksi Subhi R. M. Zeebaree Mohammed A. M.Sadeeq Hanan M. Shukur Ahmed Alkhayyat	87-93
16-	Design Multi-Level Security Communication System Based on Encryption and Steganography	Aliaa Sadoon Abd Ehab Abdulrazzaq Hussein	94-99
17-	Investigating the toxicopathology effect of Aluminum hydroxide Nanoparticles on Brain of Neonatal Mice	Shaymaa Hussein Nowfal Wasna'a M. Abdulridha Noor Hassan Abdulrudha Hayder M. A. Ghanimi Ammar Hameed Shnain Mohammed E. Mansur	100-105
18-	Discovering Anomalous Patterns in Flight Data at Najaf Airport using Lstm Auto Encoders	Inas Alhussein Ali H. Ali	106-110

19-	Facial Expression Recognition (FER) of Autism Children using Deep Neural Networks	Noor M. Abdullah Ahmad F. AL-Allaf	111-116
20-	Forecasting of Individuals' Movement in Society After Corona Pandemic Using RNNs with LSTM and GRUs	Naseer S. Abass Naji M. Sahib Ahmed Alkhayyat Jumana Waleed	117-122
21-	Harmonic Analysis of Modified Nine-level Inverter with SHEPWM using Grey Wolf Optimization	M. H. Arshad B. Ismai Muhammad Zaid Aihsan Wan Azani Mustafa Hasliza A Rahim Ali S. Abosinnee	123-129
22-	Harmonic Analysis of Three-Phase Asymmetrical Multilevel Inverter with Reduced Number of Switches	Muhammad Zaid Aihsan B. Ismail R. Ali Wan Azani Mustafa Hasliza A Rahim Ali S. Abosinnee	130-135
23-	Implementation of an Induction Furnace for Copper Melting	Murtadha S. Kadhim Aziz Sh. Hamad Isam M. Abdulbaqi	136-140
24-	Improving GPR detection for A-Scan data collection based on time window	Hussain M. Alshamy Jafar W. Abdul Sadah Thamir R. Saeed Ghufran M. Hatem Shaymaa A. Mohammed	141-145
25-	Improving the performance of evacuated tube of a solar collector with acetone-based heat pipe using the desert sand as thermal storage material	Karrar A. Al-Shiblia Ahmed S. Al-Akaishib	146-150
26-	Investigation and Performance Analysis of DC-DC Boost Converter System	M. M. S. Sulong Muhammad Zaid Aihsan Wan Azani Mustafa Hasliza A Rahim M. I. Fahmi Mohammed I. Habelalmateen	151-155
27-	Optimization of the resilient modulus of the surface and base layers using a SBS polymer	Hasan Hamodi Joni Yassir Kadhim Hadi	156-161
28-	Performance Analysis of Modified Nine-level Inverter with SHEPWM	M. H. Arshad B. Ismail	162-167

	using an Artificial Bee Colony Algorithm	Muhammad Zaid Aihsan Wan Azani Mustafa Hasliza A Rahim Raed H.C. Alfith	
29-	Power Optimization of KNN Algorithm Based on FPGA	Fadi T. Naser Sarah N. Hadi Ivan A. Hashim	168-174
30-	Real Time Web Server Aggregator to Collect Fresh Information Based on Multi-Services	Ammar Hameed Shnain Wasan Abdulwahab Mohammed Manhal Isam Sabri Sarah Hadi shaheed Hayder M. A. Ghanimi Azham Hussain	175-178
31-	Design and Simulation of High Gain DC-DC Boost Converter System for PV Application	M. M. S. Sulong Wan Azani Mustafa M. I. Fahmi M. Saifizi M. Z. Aihsan M. H. Sulong Mohammed I. Habelalmateen	179-183
32-	Real-time monitoring Patients Using RFID Network Planning Scheme	Rusul musadaq Galip Cansever A. Hussien Radie	184-189
33-	Removal of Copper ion (CU ²⁺) from Dairy wastewater by using Membrane Distillation (MD)	Ali A. Hasan Ali F. Hassoon	190-194
34-	Review of Intrusion Detection Systems Based on Machine Learning	Mohammed Hasan Ali Karrar Al-Jawaheri Myasar Mundher Adnan Safa Riyadh Waheed Karrar Abdulameer Kadhim Mohd Shafry Mohd Rahim	195-200
35-	Routing Protocols - based Clustering in WSNs	Dheyab Salman Ibrahim Fadhil Kadhem Zaidan Juliet Kadum Hassan Hadi Saleh Laith Talib Rasheed Wassem Saad Nsaif	201-205
36-	Security and Performance Analysis of MQTT Protocol with TLS in IoT Networks	A. R. Alkhafajee Abbas M. Ali Al-muqarm Ali H. Alwan Zaid Rajih Mohamme	206-211
37-	Shear Capacity of Concrete Beams Reinforced with Textile Carbon Yarns and Flamingo Reinforcing System	Isam S.Mhaimed Suhad M.Abd	212-217

38-	Study the Effect of Adding Alpha Aluminium Oxide to The Working Fluid in The Heat Pipe	Ameer Majed Mohsen Hafidh Hassan Al-Ghazali	218-222
39-	The Eavesdropping Attack on Security tradeoff for Cognitive Radio Network	Doaa Kareem Jasim Sattar B. Sadkhan	223-229
40-	The Efficacy of the Return Sludge in Removing Undesirable Materials from the Karbala Unified Water Project	Ali A. Hasan Ali F. Hassoon	230-234
41-	Performance Evaluation of Transformerless Inverter based Quadratic Boost Converter	Wan Azani Mustafa M. I. Fahmi M. Z. Aihsan H. F. Liew Hasliza A Rahim Karra S. AL-Abbooda	235-240
42-	Robot Path Planning Based on Hybrid Adaptive Dimensionality Representation with Glowworm Swarm Optimization	Qasim Radam Mahmood Ali Hadi Hasan Hussein K. Khafaji	241-246
43-	The Role of DNA Based Wireless Network Security - Status, Challenges and Future Trends	Abbas J. Altamimi Sattar B. Sadkhan	247-251
44-	Ultra-Dense Request Impact on Cluster-Based Web Server Performance	Omid H. Jader Subhi R. M. Zeebaree Mohammed A. M. Sadeeq Hanan M. Shukur Rizgar R. Zebari Ahmed Alkhayyat Zryan Najat Rashid	252-257
45-	Unbalanced Current Mitigation of Three-Phase Induction Motor for Electrical Vehicle (EV) Applications	Wan Azani Mustafa M. I. Fahmi M. Z. Aihsan M. M. Azizan Hasliza A Rahim Ali S. Abosinnee	258-263
46-	Using a Hybrid Pseudorandom Number Generator for Cryptography in the Internet of Thing	Sameeh Abdulghafour Jassim Alaa K. Farhan A. Hussien Radie	264-269
47-	Utilizing Blockchain Technologies with IoT: Review Paper	Mays Adel Khaki Intisar Shaheed Al-Mejibli Amer S. Elameer	270-275
48-	Visual Cryptography Techniques: Short Survey	Shaymaa Ammar Fadhil Alaa Kadhim Farhan	276-282

		A. Hussien Radie	
49-	Structural Behavior of Composite Steel Truss-Concrete Vierendeel Beams	Hayder Talib Nimmim Mohammed Qasim Shaaban	283-289
50-	Cavity Effects on Axially Loaded Single Pipe Piles Embedded in a Sand Deposit	Firas Abdulhadi Abdullah Mohammed Y. Fattah Aziz A. Al-Keifae	290-295
51-	The Role of Quantum and Post-Quantum Techniques in Wireless Network Security - Status, Challenges and Future Trends	Sattar B. Sadkhan Rana Abbas	296-302
52-	Intrusion Detection Systems: Status, Challenges and Future Trends- A survey	Raad Sadi Aziz Dhakaa Mohsin Kareem Sabiha F. Jawad	303-307
53-	Security and Privacy in Internet of Things- Status, Challenges	Sattar B. Sadkhan Zainab Salam	308-312
54-	A proposed methodology to use a Block-chain in Supply Chain Traceability	Ameer Khadim Hadi Shahad Salem	313-317
55-	Indoor Positioning System Enhancement Based on Max Receive Signal Strength Using Multi Transmitters	Ahmed K. Daraj , Samir M. Falih	318-322
56-	COVID-19 and real e-government and e-learning Adoption in Iraq	Amer S. Elameer	323-329