2019 International Conference on Fourth Industrial Revolution (ICFIR 2019)

Manama, Bahrain 19 – 21 February 2019



IEEE Catalog Number: ISBN:

CFP19CFI-POD 978-1-7281-1479-8

Copyright © 2019 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: | CFP19CFI-POD |
|-------------------------|-------------------|
| ISBN (Print-On-Demand): | 978-1-7281-1479-8 |
| ISBN (Online): | 978-1-7281-1478-1 |

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



2019 International Conference on Fourth Industrial Revolution (ICFIR)

Competitiveness & Quality

E-learning Model for students' Satisfaction in Higher Education Universities: Review Paper Ragad M Tawafak (512, Buraimi & Al Buraimi College, Oman), Awanis Bt Romli (University of Malaysia Pahang, Malaysia), Ruzaini Abdullah Arshah (Universitiy Malaysia Pahang, Malaysia)

Efficiency and Performance

A Review on Models of Human Face Verification Techniques
Ghaliya Alfarsi (Al Buraimi University College, Oman), Ragad M Tawafak (512, Buraimi & Al Buraimi College, Oman), Jasiya Jabbar (AlBuraimi College, Oman)
7
Communication Protocol Review for SMART Manufacturing Units within a Cloud Manufacturing Environment
Gareth Gericke (Central University of Technology, South Africa), Hermanus Vermaak (Central University of Technology, Free State, South Africa), Rangith Baby Kuriakose (University of Technology & Central University of Technology, South Africa)

Oil & Gas

| Applications of AI in Oil Well Surveillance Rami Esbai (Tatweer Petroleum, Bahrain), Sayed Sharaf (Tatweer Petroleum, Bahrain), Mohamed Khalifa (Tatweer Petroleum, Bahrain) | . 18 |
|--|------|
| Delivering on Industry 4.0 in a multinational petrochemical company: Design and execution Eyad Buhulaiga (Saudi Aramco, Saudi Arabia), Arnesh Telukdarie (University of Johannesburg, South Africa), Shashikant Ramsangar (Saudi Aramco, Saudi Arabia) | 23 |

Power

| The Amount of Fresh Water Wasted as by Product of Air Conditioning Systems: Case Study in the Kingdom of Bahrain | |
|--|----|
| Husham Ahmed (AMAIU, Bahrain) | 29 |
| Loss of Load Probability effect on Four Power Stations | |
| Isa Salman Qamber (UOB, Bahrain) | 33 |

Engineering

| Industrial Revolution Effect on the Architectural Design | |
|--|----|
| Wael Abdelhameed (University of Bahrain, Bahrain) | 37 |
| Impact of heterogeneous Clusters to Implement Parallel Processing | |
| Mohammed Majid Al khalidy (University of Bahrain & Engineering College, Bahrain) | 43 |

Operations & Performance

| Reducing HTTP Request times through Utilizing BGP: An Experimental Study Amerah Abdulrazzaq (University Of Bahrain, Bahrain), Aws Fldaeldin (Bahrain Polytechnic School of ICT and Web Media, Bahrain) | 49 |
|--|----|
| Machine Learning Model for Breast Cancer Prediction Sahar Ismail (Princess Nourah Bint Abdulrahman University & Benha University - Faculty of Engineering-Shoubra, Egypt), Amjad Al- montasheri (Princess Nourah bint Abdulrahman University, Saudi Arabia), Batool Al-hazmi (Princess Nourah Bint Abdulrahman University, Saudi Arabia), Maram Al-shehri (Princess Nourah Bint Abdulrahman University, Saudi Arabia), Haya Al-dkaan (Princess Nourah bint Abdulrahman University, Saudi Arabia) | 54 |
| Accommodating Secret Sharing Technique for Personal Remembrance via Steganography Adnan Gutub (Umm Al-Qura University, Saudi Arabia), Maimoona Al-Ghamdi (Umm Al-Qura University, Saudi Arabia) | 62 |
| Migration of Legacy Industrial Automation Systems in the Context of Industry 4.0- A Comparative Study Labib Zawra (Faculty of Engineering, Benha University, Egypt) | 68 |
| The Maintenance's Strategies & the 4th. Industrial Revolution Mahmoud Meckawey (Private Business, Egypt) | 75 |
| Integrated System (E-Murabaha) A new Approach to E-Commerce Mohammad Allaymoun (AMA International University, Bahrain), Omer Awad Hag Hamid (AMA International University, Bahrain) | 83 |

| Business Processes: A critical tool for Industry 4.0 enablement | |
|--|----|
| Arnesh Telukdarie (University of Johannesburg, South Africa) | 89 |
| Mobile Payment Adoption: A Systematic Review of the UTAUT Model | |
| Karrar Al-Saedi (Sohar University, Oman), Mostafa Al-Emran (Universiti Malaysia Pahang, Malaysia), Eimad Abusham (Sohar University, Oman), Sahar Ismail (Princess Nourah Bint Abdulrahman University & Benha University - Faculty of Engineering-Shoubra, Egypt) | 94 |
| A Smart Sensor School Management System That Improves Security Of Student | |
| Elizabeth Baby Kuriakose (Central University of Technology, India) | 99 |
| | |

Logistics

The Role of E-learning to improve staff performance in Bahrain Airport Services Ghossoon AlSadoon (AMA International University & College of Administrative Financial I & Sciences, Bahrain), Mohamed Saadalla (Employee, Bahrain)