

# **2018 IEEE Conference on Big Data and Analytics (ICBDA 2018)**

**Langkawi Island, Malaysia  
21-22 November 2018**



**IEEE Catalog Number: CFP18TWE-POD  
ISBN: 978-1-5386-7129-0**

**Copyright © 2018 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:	CFP18TWE-POD
ISBN (Print-On-Demand):	978-1-5386-7129-0
ISBN (Online):	978-1-5386-7128-3

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# Program

## 2018 IEEE Conference on Big Data and Analytics (ICBDA)

### ICBDA-Session 1

- Predictive Analytics: The Application of J48 Algorithm on Grocery Data to Predict Obesity

Nur'Aina Daud (Universiti Teknologi MARA Shah Alam, Malaysia), Nor Laila Md Noor (Universiti Teknologi MARA, Malaysia), Syed Ahmad Sheikh Aljunid (Universiti Teknologi MARA, Malaysia), Nurulhuda Noordin (Universiti Teknologi MARA, Malaysia), Nur Islami Mohd Fahmi Teng (Universiti Teknologi MARA, Malaysia) 1

- Risk Overview and Cost Prediction Model for Refinery Equipment Using Life Cycle Costing Analysis

Radziah Zainuddin (Center for Research of Data Science, Malaysia), Jafreezal Jaafar (Universiti Teknologi PETRONAS, Malaysia), Izzatdin Abdul Aziz (Universiti Teknologi PETRONAS, Malaysia) 7

- Prediction of Lifetime Digital Heat Exchanger Using Life Cycle Cost Analysis (LCCA)

Izzatdin Abdul Aziz (Universiti Teknologi PETRONAS, Malaysia), Nurul Harzira Mohamad Nor (Center for Research of Data Science, Malaysia), Noor Adilah Rashid (Center for Research of Data Science, Malaysia) 12

- An Analysis on the Effect of Consumers Behaviour Towards Household Electricity Consumption

Hazleen Aris (Universiti Tenaga Nasional, Malaysia), Roimah Dollah (Universiti Tenaga Nasional, Malaysia), Khairul Nisa Jamalludin (Universiti Tenaga Nasional, Malaysia) 16

### ICBDA-Session 2

- Associative Classification of the Jordanian Hospitals Efficiency Based on DEA

Ahmad Alaiad (Jordan University Of Science and Technology, Jordan), Hassan Mohammad Najadat (Jordan University of Science and Technology, Jordan), Nusaiba Al-Mnayyis (Jordan University Of Science and Technology, Jordan), Ashwaq Khalil (Jordan University Of Science and Technology, Jordan) 23

- Agent-based Modeling of Inter-provincial Migration in the Mekong Delta, Vietnam: A Data

## Analytics Approach

Hung Nguyen (The University of Newcastle, Australia), Raymond Chiong (The University of Newcastle, Australia), Manuel Chica (University of Granada (Q1818002-F), Spain), Richard Middleton (University of Newcastle & Australia, Australia) 27

- Modelling and System Identification of Gas Fuel Valves in Rowen's Model for Dry Low Emission Gas Turbine

Madiah Binti Omar (Universiti Teknologi PETRONAS, Malaysia), Rosdiazli Ibrahim (Universiti Teknologi PETRONAS, Malaysia), Mohammad Haizad Mohd Tarik (Universiti Teknologi PETRONAS, Malaysia), Mohd Faris Abdullah (Universiti Teknologi PETRONAS, Malaysia) 33

- Mapping Research Theme for Malaysia's Publication

Nurul Mardhiah Azura Md Nadzar (Universiti Teknologi Malaysia, Malaysia), Aryati Bakri (Universiti Teknologi Malaysia, Malaysia), Roliana Ibrahim (Universiti Teknologi Malaysia, Malaysia) 38

- A Big Data Analytics Model for Household Electricity Consumption Tracking and Monitoring

Hazleen Aris (Universiti Tenaga Nasional, Malaysia), Roimah Dollah (Universiti Tenaga Nasional, Malaysia) 44

- Predicting Personal Mobility Data Disclosure

Hui Na Chua (5, Jalan Universiti, Bandar Sunway & Sunway University, Malaysia), Jersey Deniro (Sunway University, Malaysia) 50

## ICBDA-Session 3b

- Suggestion of Circumstances in Exploration and Properties of Unknown Pages Aimed at Enhancing the Meaningful Trial and Error

Ryo Onuma (Fukushima University, Japan), Takashi Amano (Fukushima University, Japan), Hiroki Nakayama (Waseda University, Japan), Hiroaki Kaminaga (Fukushima University, Japan), Youzou Miyadera (Tokyo Gakugei University, Japan), Shoichi Nakamura (Fukushima University, Japan) 56

- New Cyber Threat Discovery from Darknet Marketplaces

Fangzhou Dong (Sichuan University, P.R. China), Shaoxian Yuan (Sichuan University, P.R. China), Haoran Ou (Sichuan University, P.R. China), Liang Liu (Sichuan University, Chengdu, P.R. China) 62

- Multi-PSO Based Classifier Selection and Parameter Optimisation for Sentiment Polarity

## Prediction

Gregorius Satia Budhi (University of Newcastle, Australia & Petra Christian University, Indonesia), Raymond Chiong (The University of Newcastle, Australia), Zhongyi Hu (Wuhan University, P.R. China), Ilung Pranata (The University of Newcastle, Australia), Sandeep Dhakal (Swinburne University of Technology (Sarawak Campus), Malaysia) 68

- Machine Learning Model for Analyzing Learning Situations in Programming Learning

Shota Kawaguchi (Tokyo Gakugei University, Japan), Yoshiki Sato (Tokyo Gakugei University & Info screw inc., Japan), Hiroki Nakayama (Waseda University, Japan), Ryo Onuma (Fukushima University, Japan), Shoichi Nakamura (Fukushima University, Japan), Youzou Miyadera (Tokyo Gakugei University, Japan) 74

## ICBDA-Session 3a

- FP-NoSQL: An Efficient Frequent Itemset Mining Algorithm Using the FP-DB Approach

Chin-Hoong Chee (Universiti Teknologi PETRONAS, Malaysia), Jafreezal Jaafar (Universiti Teknologi PETRONAS, Malaysia), Izzatdin Abdul Aziz (Universiti Teknologi PETRONAS, Malaysia) 80

- Learning Dependence Representations with CNNs

Taejun Kim (University of Seoul, Korea), Hanjoon Kim (University of Seoul, Korea) 87

- Acoustic Emission Source Localization on A Pipeline Using Convolutional Neural Network

Hoo Heng (Tunku Abdul Rahman University, Malaysia), Jeeva Sathya Theesar Shanmugam (University Tunku Abdul Rahman, Malaysia), Madhavan Balan Nair (Universiti Tunku Abdul Rahman, Malaysia), Ezra Morris A Gnanamuthu (Universiti Tunku Abdul Rahman, Malaysia) 93

## ICBDA-Session 4

- A Framework of Position Tracked Freehand 3D Ultrasound Reconstruction Using Game Controller and Pixel Nearest Neighbour Method for Marching Cubes Volume Visualization

Chan Vei Siang (Universiti Teknologi Malaysia, Malaysia), Farhan Mohamed (Universiti Teknologi Malaysia, Malaysia), Muhammad Ismail Mat Isham (Universiti Teknologi Malaysia, Malaysia), Yusman Yusoff (Universiti Teknologi Malaysia, Malaysia), Ahmad Ashraf Abd Aziz (Universiti Teknologi Malaysia, Malaysia), Dyah Ekashanti Octorina Dewi (Universiti Teknologi Malaysia, Malaysia) 99

- A Framework of Ultrasounds Image Slice Positioning and Orientation in 3D Augmented Reality Environment Using Hybrid Tracking Method

Muhammad Ismail (Universiti Teknologi Malaysia, Malaysia), Farhan Mohamed (Universiti Teknologi Malaysia, Malaysia), Chan Vei Siang (Universiti Teknologi Malaysia, Malaysia), Yusman Yusoff (Universiti Teknologi Malaysia, Malaysia), Ahmad Ashraf Abd Aziz (Universiti Teknologi Malaysia, Malaysia), Dyah Ekashanti Octorina Dewi (Universiti Teknologi Malaysia, Malaysia) 105

- Maximising Competitive Advantage on E-Business Websites: A Data Mining Approach

Ammar Alazab (Melbourne Institute Technology, Australia) 111

- Data Visualization for Evaluation Form Management System

Emelia Akashah Patah Akhir (Universiti Teknologi Petronas, Malaysia), Norshakirah Aziz (Universiti Teknologi PETRONAS, Malaysia), Izuddin Zainal-Abidin (Universiti Teknologi PETRONAS, Malaysia) 117

- Identifying Beneficial Sessions in an E-Learning System Using Machine Learning Techniques

Mushtaq Hussain (Shanghai University, P.R. China), Wenhao Zhu (Shanghai University, P.R. China), Wu Zhang (Shanghai University, P.R. China), Jianyue Ni (Shanghai University, P.R. China), Zaheer Ullah Khan (Nanjing University of Aeronautics and Astronautics, P.R. China) 123

- Reconstruction of Large-Scale Gene Regulatory Networks Using Regression-based Models

Faridah Hani MS (Universiti Tenaga Nasional, Malaysia) 129