

# **2020 1st International Conference on Big Data Analytics and Practices (IBDAP 2020)**

**Bangkok, Thailand  
25 – 26 September 2020**



**IEEE Catalog Number: CFP20X39-POD  
ISBN: 978-1-7281-8107-3**

**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:	CFP20X39-POD
ISBN (Print-On-Demand):	978-1-7281-8107-3
ISBN (Online):	978-1-7281-8106-6

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

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# Program

## 2020 1st International Conference on Big Data Analytics and Practices (IBDAP)

### Oral Session I

<i>Benefit Recommendation System: A Use Case for Pension Fund Data Analytics</i> Patipan Prasertsom (Government Big Data Institute (GBDi), Thailand), Intouch Kunakornum (King Mongkut's University of Technology Thonburi, Thailand), Atthavit Tulyathan (Government Big Data Institute (GBDi), Thailand), Nontawit Cheewarungraj (Government Big Data Institute (GBDi), Thailand), Kanyawee Pornsawanqdee (Government Big Data Institute (GBDi), Thailand), Napassawan Pasuthip (Government Big Data Institute (GBDi), Thailand) .....	1
<i>Evaluation Matrix for Smart Machine-Learning Algorithm Choice</i> Felix Pistorius (Karlsruher Institut für Technologie (KIT), Germany), Daniel Grimm (Karlsruhe Institute of Technology, Germany), Florian Erdösi (Karlsruhe Institute of Technology, Germany), Eric Sax (Karlsruhe Institute of Technology, Germany) .....	6
<i>Automatic Hyper-Parameter Tuning for Gradient Boosting Machine</i> Kankawee Kiatkarun (King Mongkut's University of Technology Thonburi, Thailand), Phond Phunchongharn (King Mongkut's University of Technology Thonburi, Thailand) .....	12
<i>Cluster Validity Index for Big Data Based on Density Discriminant Analysis</i> Thitivyaporn Weerapong (King Mongkut's University of Technology Thonburi, Thailand), Sunisa Sathapornvajana (King Mongkut's University of Technology Thonburi, Thailand), Praisan Padunqweang (King Mongkut's University of Technology Thonburi, Thailand), Worarat Krathu (King Mongkut's University of Technology Thonburi, Thailand) .....	18
<i>A Spot-Recommendation System for Taxi Drivers Using Monte Carlo Optimization</i> Phond Phunchongharn (King Mongkut's University of Technology Thonburi, Thailand), Pitsanurak Chareonwai (King Mongkut's University of Technology Thonburi, Thailand), Viroat Srisurapanon (King Mongkut's University of Technology Thonburi, Thailand), Pitchaporn Likitpanjamanon (ExxonMobil, Thailand), Mullika Phanhong (Government Big Data Institute (GBDi), Thailand) .....	22

### Oral Session II

<i>Visual Representations of Different Family Structures Using an Interactive Data Exploration Technique</i> Peeradon Samasiri (King Mongkut's University of Technology Thonburi & Government Big Data Institute, Thailand) .....	27
<i>Sakdas: A Python Package for Data Profiling and Data Quality Auditing</i> Sakda Loetpipatwanich (National Institute of Development Administration, Thailand), Preecha Vichitthamaros (National Institute of Development Administration, Thailand) .....	32
<i>Digital Transformation in Business and Management Research: Bibliometric and Co-Word Network Analysis</i> Punthira Chinotaiikul (NRI Consulting & Solutions, Thailand), Sukrit Vinayavekhin (Thammasat Business School, Thammasat University, Thailand) .....	36
<i>Towards a Natural Language Query Processing System</i> Chantal Montgomery (Queen's University, Canada), Haruna Isah (University of New Brunswick, Canada), Farhana H. Zulkernine (Queen's University & CA Canada, Canada) .....	41
<i>Research Topic Modeling: A Use Case for Data Analytics on Research Project Data</i> Nuttthapachr Sethasathien (Government Big Data Institute (GBDi), Thailand), Patipan Prasertsom (Government Big Data Institute (GBDi), Thailand) .....	47
<i>On the Network and Topological Analyses of Legal Documents Using Text Mining Approach</i> Supawit Somsakul (King Mongkut's University of Technology Thonburi, Thailand), Santitham Prom-on (King Mongkut's University of Technology Thonburi, Thailand) .....	59

### Oral Session III

<i>Monitoring the COVID-19 Situation in Thailand</i> Isarapong Eksinchol (Government Big Data Institute, the Thai Ministry of Digital Economy and Society, Thailand) .....	65
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----

<i>The Relations Between Implementation Date of Policies and the Spreading of COVID-19</i> Unchalisa Taetraaool (King Mongkut's University of Technology Thonburi, Thailand), Watcharin Sirinaovakul (King Mongkut's University of Technology Thonburi, Thailand), Thanason Eiamyingsakul (King Mongkut's University of Technology Thonburi, Thailand), Narawit Tubtimtoe (King Mongkut's University of Technology Thonburi, Thailand), Santitham Prom-on (King Mongkut's University of Technology Thonburi, Thailand) .....	71
<i>Demand Forecasting Using Artificial Neural Network Based on Quantitative and Qualitative Data</i> Athiwat Leenatham (King Mongkut's University of Technology North Bangkok & Dhurakij Pundit University, Thailand) .....	77
<i>Panic of COVID-19 on the Volatility of U.S. Portfolios: Applied Big Data from Google Trend</i> Asama Liamukda (Ph.D. Program in Applied Statistics, Department of Statistics, Faculty of Science, Chiang Mai University, Thailand), Manad Khamkong (Chiang Mai University, Thailand), Lampang Saenchan (Chiang Mai University, Thailand), Napon Hongsakulvasu (Chiang Mai University, Thailand) .....	83
<i>Student Dropout Prediction: A KMUTT Case Study</i> Warit Tenpipat (KMUTT, Thailand), Khajonpong Akkarajitsakul (King Mongkut's University of Technology Thonburi, Thailand) .....	88

## Oral Session IV

<i>Big Data Analytics Framework for Digital Government</i> Papoi Thamjaroenporn (Government Big Data Institute, Thailand), Tiranee Achalakul (King Mongkut's University of Technology Thonburi, Thailand) .....	93
<i>A Framework for Collecting and Analyzing Massive Community Data</i> Wichai Puarungroj (Loei Rajabhat University, Thailand) .....	99
<i>A Big Data Lake for Multilevel Streaming Analytics</i> Ruoran Liu (Queen's University, Canada), Haruna Isah (University of New Brunswick, Canada), Farhana H. Zulkernine (Queen's University & CA Canada, Canada) .....	103
<i>Detecting Philadelphia Chromosome on Metaphase Images Using a Convolutional Neural Network</i> Nutaya Pravalphruekul (King Mongkut's University of Technology Thonburi, Thailand), Thanawat Tanqornpisit (King Mongkut's University of Technology Thonburi, Thailand), Waris Limtoprasert (King Mongkut's University of Technology Thonburi, Thailand), Chanisa Phenphon (King Mongkut's University of Technology Thonburi, Thailand), Woranich Hinthong (Chulabhorn Royal Academy, Thailand), Priyavudh Herabutya (Chulabhorn Royal Academy, Thailand), Phond Phunchongharn (King Mongkut's University of Technology Thonburi, Thailand) .....	109
<i>BoydCut: Bidirectional LSTM-CNN Model for Thai Sentence Segmenter</i> Duanjai Jitkongchuen (Dhurakij Pundit University, Thailand), Sorratat Sirirattanajakarin (Dhurakij Pundit University, Thailand), Peerasak Intarapaiboon (Siam Cement Group, Thailand) .....	115
<i>Detection of Hate Speech Using Global Vector and Deep Belief Network (DBN) Algorithm</i> Iqbal Zulfikar Muhammad (Telkom University & Bandung, Indonesia), Casi Setianingsih (Telkom University, Indonesia) .....	119