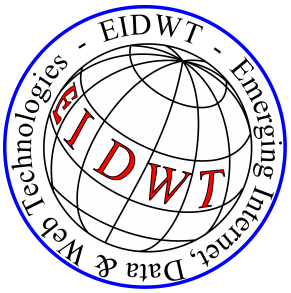
PROGRAM GUIDE

EIDWT-2023

The 11-th International Conference on
Emerging Internet, Data & Web Technologies



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FIT Fukuoka Institute of Technology 福岡工業大学

Fukuoka Institute of Technology

Virtual Conference (Online Presentation)
February 23-25, 2023

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Welcome Message of EIDWT International Conference Organizers

Welcome to the 11-th International Conference on Emerging Internet, Data and Web Technologies (EIDWT-2023), which will be held from February 23 to February 25, 2023.

The EIDWT is dedicated to the dissemination of original contributions that are related to the theories, practices and concepts of emerging Internet and data technologies yet most importantly of their applicability in business and academia towards a collective intelligence approach.

In EIDWT-2023 will be discussed topics related to Information Networking, Data Centres, Data Grids, Clouds, Crowds, Mashups, Social Networks, Security Issues and other Web implementations towards a collaborative and collective intelligence approach leading to advancements of virtual organizations and their user communities. This is because, Web implementations will store and continuously produce a vast amount of data, which if combined and analyzed through a collective intelligence manner will make a difference in the organizational settings and their user communities. Thus, the scope of EIDWT-2023 includes methods and practices which bring various emerging Internet and data technologies together to capture, integrate, analyze, mine, annotate and visualize data in a meaningful and collaborative manner. Finally, EIDWT-2023 aims to provide a forum for original discussion and prompt future directions in the area.

An international conference requires the support and help of many people. A lot of people have helped and worked hard for a successful EIDWT-2023 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers. We are indebted to Program Area chairs, Program Committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers. We would like to give our special thanks to Honorary Chair of EIDWT-2023 Prof. Makoto Takizawa, Hosei University, Japan for his guidance and support. We would like to express our appreciation to our keynote speakers for accepting our invitation and delivering very interesting keynotes at the conference.

EIDWT 2023 Keynote Talk I

Prof. Wenny Rahayu, La Trobe University, Melbourne, Australia

Title: Fueling the Data Engine to Boost the Power of Analytics

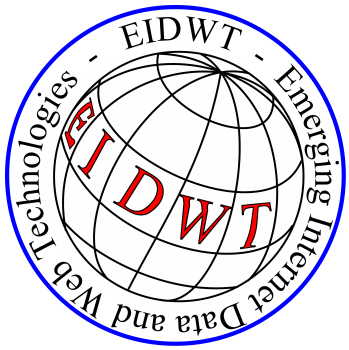
Abstract: Data analytics is often considered in isolation. The attractiveness of the problems that need to be solved, the sophistication of the solutions, and the usefulness of the results are certainly the significant strengths of work on data analytics. However, the input data is often too simplistic, or at least the assumption that the data is already readily prepared for data analytics often neglects the fact that preparing such an input data is in many cases, if not all, actually the major work in the data lifecycle. The pipeline from the operational databases that keep the transactions and raw data to the input data for data analytics is very long; it often occupies as much as 80% (or sometimes even more) of the entire lifecycle. Therefore, we need to put much effort to this preparation and transformation work in order to value the work and the results produced by data analytics algorithms. Having the correct input data for the data analytics algorithms, or in fact for any algorithms and processes, is critical, as the famous quote "garbage in garbage out" had said. Even when the original data is correct, but when it is presented inaccurately to a data analytics algorithm, it may consequently produce incorrect reasoning. This talk will present a systematic approach to build a data engine for effective analytics.

EIDWT 2023 Keynote Talk II

Dr. Ricardo Rodriguez Jorge, Jan Evangelista Purkyně University, Ústí nad Labem, Czech Republic

Title: Impact of Uncertainty Analysis and Feature Selection on Data Science

Abstract: Data science applications usually need a previous preprocessing stage for feature extraction and data validation. The data needs to be preprocessed and analyzed to minimize the dataset while preserving variance and patterns in order to find the optimal feature vector configuration. The feature selection algorithm allows finding the feature vector configuration to ensure minimal uncertainty in mapping the corresponding outputs and feature vectors. In data science, feature vector designs can be performed by different techniques and the validation can be performed by uncertainty analysis. These considerations are timely because wearable devices are increasingly being used on a large scale in different scientific fields. This talk will contribute to recommendations for the use of signals and data as a means of informing the impact of different uncertainty analysis and feature selection methods for data science applications. Using this new knowledge together with machine learning, data science applications can be evaluated with more confidence.



EIDWT-2023
Main Conference Program

Thursday, February 23, 2023

EIDWT-2023 Keynote I
11:00-12:00 (UTC+9) Japan Standard Time
04:00-05:00 (UTC+2) CEST Time Zone (Rome, Italy)
19:00-20:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

EIDWT-2023 Keynote Talk I

Prof. Wenny Rahayu: Fueling the Data Engine to Boost the Power of Analytics

Parallel Sessions

13:00-14:30 (UTC+9) Japan Standard Time
06:00-07:30 (UTC+2) CEST Time Zone (Rome, Italy)
21:00-22:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

EIDWT-S1: Wireless and Mobile Networking

Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan

1. A Fuzzy-based Approach for Selection of Radio Access Technologies in 5G Wireless Networks
   Phudit Ampririt, Makoto Ikeda, Keita Matsuo, Leonard Barolli

2. A Comparison Study of FC-RDVM and LDVM Router Placement Methods for WMNs Considering Uniform Distribution of Mesh Clients and Different Instances
   Shinji Sakamoto, Admir Barolli, Yi Liu, Elis Kulla, Leonard Barolli and Makoto Takizawa

3. Performance Evaluation of FBRD Protocol Considering Transporter Autonomous Underwater Vehicles for Underwater Optical Wireless Communication in Delay Tolerant Networking
Keita Matsuo, Elis Kulla and Leonard Barolli

4. A Road State Decision Method based on Roughness by Crowd Sensing Technology
Yoshitaka Shibata, Yasushi Bansho

5. Experimental Results of a Wireless Sensor Network Testbed for Monitoring a Water Reservoir Tank Considering Multi-Flows
Yuki Nagai, Aoto Hirata, Chihiro Yukawa, Kyohei Toyoshima, Tetsuya Oda, Leonard Barolli

EIDWT-S2: Multimedia Systems and Virtual Reality

Chair: Tomoyuki Ishida, Fukuoka Institute of Technology, Japan

1. Proposal of an Aquarium Design Support Virtual Reality System
Fumitaka Matsubara, Tomoyuki Ishida

2. A Design and Implementation of Dynamic Display Boards in a Virtual Pavilion Based on Unity3D
Zimin Li, Feng Pan

3. Applying BERT on the Classification of Chinese Legal Documents
Qiong Zhang, Xu Chen

4. Technology and Efficacy Extraction of Mechanical Patents Based on BiLSTM-CRF
Cui Ruiyi, Deng Na, Zheng Cheng

5. Thai Word Disambiguation, An Experiment on Thai Language Dataset with Various Deep Learning Models
Nontakan Nuntachit, Karn Patanukhom, Prompong Sugunnasil

Parallel Sessions

15:00-16:30 (UTC+9) Japan Standard Time
08:00-09:30 (UTC+2) CEST Time Zone (Rome, Italy)
23:00-00:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

EIDWT-S3: Data Analytics and Modeling

Chair: Juggapong Natwichai, Chiang Mai University, Thailand

1. Data Integration in Practice: Academic Finance Analytics Case Study
Kittayaporn Chantaranimi, Juggapong Natwichai, Pawat Pajsaranuwat, Anawat Wisetborisut, and Surapong Phosu

2. The Source Code Maintenance Time Classifications from Code Smell
Patcharaprapa Khamkhiaw, Chartchai Doungsa-ard and Passakorn Phannachitta

3. Evolution Analysis of R&D Jobs Based on Patents ' Technology Efficacy Labeling
Cui Ruiyi, Deng Na, Zheng Cheng

4. Zakat Management Model Based on ICT
Bedjo Santoso, Provita Wijayanti, Fenita Austriani

5. The Model of Improving the Quality of Government Financial Reporting
   Edy Suprianto, Dedi Rusdi and Ahmad Salim

EIDWT-S4: Multimedia and Web-Based Applications

Chair: Yoshihiro Okada, Kyushu University, Japan

1. A Depth Camera Based Soldering Motion Analysis System for Attention Posture Detection Considering Body Orientation
   Kyohei Toyoshima, Chihiro Yukawa, Yuki Nagai, Nobuki Saito, Tetsuya Oda, Leonard Barolli
2. Development Framework Using 360VR Cameras and Lidar Scanners for Web-based XR Educational Materials Supporting VR Goggles
   Yoshihiro Okada, Kosuke Kaneko and Wei Shi
3. A Comparative Study of Several Spatial Domain Image Denoising Algorithm
   Rui Deng, Yanli Fu and Shuyao Li
4. Web-Based Collaborative VR System Supporting VR goggles for Radiation Therapy Setup Training
   Yuta Miyahara, Kosuke Kaneko, Toshioh Fujibuchi, Yoshihiro Okada
5. Teaching Method of Advanced Mathematics Combining PAD Classroom with ADDIE Model
   Yanyan Zhao, Qiong Li, Xuhui Fan, Lili Su, Jingtao Li and Xiaokang Liu

Parallel Sessions

17:00-18:30 (UTC+9) Japan Standard Time
10:00-11:30 (UTC+2) CEST Time Zone (Rome, Italy)
01:00-02:30 (UTC-7) Pacific Daylight Time (Victoria, CA)

EIDWT-S5: Data Security and Blockchain Applications

Chair: Elis Kulla, Fukuoka Institute of Technology, Japan

1. Blockchain Applications for Mobility-as-a-Service Ecosystem: A Survey
   Elis Kulla, Leonard Barolli, Keita Matsuo and Makoto Ikeda
2. Construction of a Fully Homomorphic Encryption Scheme with Shorter Ciphertext and its Implementation on the CUDA Platform
   Dong Chen, Tanping Zhou, Wenchao Liu, Zichen Zhou, Yujie Ding, Xiaoyuan Yang
3. Traffic-oriented Shellcode Detection Based on VSM
   Pengju Liu, Baojiang Cui, Can Cui
4. Blockchain Technology and Financing Risk in Profit Loss Sharing Financing of Indonesian Islamic Bank
   Mutamimah Mutamimah, Indri Kartika
5. Privacy-Preserving Scheme for Nearest Life Services Search Based on Dummy Locations and Homomorphic Encryption Algorithm
   TieSen Zhao, LiPing Shi
6. IPT-CFI: Control Flow Integrity Vulnerability Detection Based on Intel Processor Trace
   Zhuorao Yang, Baojiang Cui, Can Cui

EIDWT-S6: Multimedia Modeling and Data Extraction

Chair: Olivia Fachrunnisa, UNISSULA, Indonesia

1. A Pedestrian Avoidance System for Visual Impaired People Based on Object Tracking Algorithm
   Rui Shan, Wei Shi, Zhu Teng, Yoshihiro Okada

2. Effect of Lighting of Metal Surface by Different Colors for an Intelligent Robotic Vision System
   Chihiro Yukawa, Nobuki Saito, Aoto Hirata, Kyohei Toyoshima, Yuki Nagai, Tetsuya Oda, Leonard Barolli

3. Applying BBLT Incorporating Specific Domain Topic Summary Generation Algorithm to the Classification of Chinese Legal Cases
   Qiong Zhang, Xu Chen

4. Terminology Extraction of New Energy Vehicle Patent Texts based on BERT-BILSTM-CRF
   Zheng Cheng, Deng Na, Cui Ruiyi, Lin Hanhui

5. Talent Incubator System: A Conceptual Framework of Employee Recruitment Strategy in Digital Era
   Olivia Fachrunnisa, Nurhidayati, Ardian Adhiatma

Friday, February 24, 2023

Parallel Sessions

13:00-14:30 (UTC+9) Japan Standard Time
06:00-07:30 (UTC+2) CEST Time Zone (Rome, Italy)
21:00-22:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

EIDWT-S7: Cloud, Fog and Edge Computing

Chair: Makoto Takizawa, Hosei University, Japan

1. A Flexible Fog Computing (FTBFC) Model to Reduce Energy Consumption of the IoT
   Dilawaer Duolikun, Tomoya Enokido and Makoto Takizawa
2. Research on Federated Learning for Tactical Edge Intelligence
   Rongrong Zhang, Zhiqiang Gao, Di Zhou
3. Load Balancing Algorithm for Information Flow Control in Fog Computing Model
   Shigenari Nakamura, Tomoya Enokido and Makoto Takizawa
4. Federated Reinforcement Learning Technology and Application in Edge Intelligence Scene
   Xuanzhu Sheng, Zhiqiang Gao, Xiaolong Cui, Chao Yu
5. Cryptanalysis of a Public Cloud Auditing Scheme
   Xu An Wang, Mingyu Zhou and Wenyong Yuan
6. Implementation of a Fuzzy-based Testbed for Coordination and Management of Cloud-Fog-Edge Resources in SDN-VANETs
   Ermioni Qafzezi, Kevin Bylykbashi, Elis Kulla, Makoto Ikeda, Keita Matsuo, Leonard Barolli

EIDWT-S8: Knowledge Discovery and Business Intelligence

Chair: Shinji Sakamoto, Kanazawa Institute of Technology, Japan

1. Supply Chain Finance Mediates The Effect of Trust and Commitment on Supply Chain Effectiveness
   Lisa Kartikasari and Muhammad Ali Ridho
2. Conceptual Paper of Environmental Disclosure and Financial Performance: The Role of Environmental Performance
   Luluk Muhimatul Ifada, Naila Najihah, Farikha Amilahaq, Azizah Azmi Khatamy
3. Data Pipeline of Efficient Stream Data Ingestion for Game Analytics
   Noppon Wongta and Juggapong Natwichai
4. Business Intelligence: Alternative Decision-Making Solutions on SMEs in Indonesia
   Agustina Fitrianingrum, Maya Indriastuti, Andi Riansyah, Abdul Basir, Dedi Rusdi
5. Mustahik Micro Business Incubation in Poverty Alleviation
   Zainal Alim Adiwijaya, Edy Suprianto and Dedi Ru

Parallel Sessions

15:00-16:30 (UTC+9) Japan Standard Time
08:00-09:30 (UTC+2) CEST Time Zone (Rome, Italy)
23:00-00:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)

EIDWT-S9: Protocols, Modeling and Algorithms

Chair: Tomoya Enokido, Rissho University, Japan

1. Energy-Efficient Locking Protocol in Virtual Machine Environments
   Tomoya Enokido, Dilawaer Duolikun and Makoto Takizawa

2. T -Ψ Schemes for a Transient Eddy-current Problem On an Unbounded Area
   Yiyue Sun

3. A Kind of Online Game Addictive Treatment Model about Young Person
   Xiaokang Liu, Jiangtao Li, Yanyan Zhao ,Yiyue Sun, Haibo Zhang

4. Research on E-commerce Customer Value Segmentation Model Based on Network Behavior
   Jing Zhang and Juan Li

5. A Consistency Maintenance Method Integrating OT and CRDT in Collaborative Graphic Editing
   Chen Weijie, Xiong Caiquan, Wu Xinyun

EIDWT-S10: Intelligent Algorithms and Systems

Chair: Makoto Ikeda, Fukuoka Institute of Technology, Japan

1. A Comparison Study of LDVM and RDVM Router Replacement Methods by WMN-PSODGA Hybrid Simulation System Considering Two Islands Distribution of Mesh Clients
   Admir Barolli, Kevin Bylykbashi, Ermioni Qafzezi, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa

2. FBCF: A Fuzzy-based Brake-assisting Control Function for Rail Vehicles Using Type-1 and Type-2 Fuzzy Inference Models
   Mitsuki Tsuneyoshi, Makoto Ikeda, and Leonard Barolli

3. A Memetic Approach for Classic Minimum Dominating Set Problem
   Peng Rui, Wu Xinyun, Xiong Caiquan

4. Exploration of Neural Network Imputation Methods for Medical Datasets
   Vivatchai Kaveeta, Prompong Sugunnasil, Juggapong Natwichai

5. Fuzzy Mean Clustering Analysis based on Glutamic Acid Fermentation Failure
   Chunming Zhang

EIDWT-2023 Keynote II
17:00-18:00 (UTC+9) Japan Standard Time
10:00-11:00 (UTC+2) CEST Time Zone (Rome, Italy)
01:00-02:00 (UTC-7) Pacific Daylight Time (Victoria, CA)

EIDWT-2023 Keynote Talk II

Dr. Ricardo Rodriguez Jorge: Impact of uncertainty analysis and feature selection on data science

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Saturday, February 25, 2023

EIDWT-2023 Steering Committee Meeting and Discussion

Online Meeting Schedule for EIDWT-2023
February 23 - 25, 2023

1st Day: Thursday, 23 February, 2023	Room #1 Meeting ID: 824 2814 7012		Room #2 Meeting ID: 812 3258 2940	
	Session title	Session Chair	Session title	Session Chair
Slot 1 11:00-12:00 (UTC+9) Japan Standard Time 04:00-05:00 (UTC+2) CEST Time Zone (Rome, Italy) 19:00-20:00 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**Keynote #1: Prof. Wenny Rahayu** **Meeting ID: 824 2814 7012**			
Slot 2 13:00-14:30 (UTC+9) Japan Standard Time 06:00-07:30 (UTC+2) CEST Time Zone (Rome, Italy) 21:00-22:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**EIDWT-S1**	Keita Matsuo, JP	**EIDWT-S2**	Tomoyuki Ishida, JP
Slot 3 15:00-16:30 (UTC+9) Japan Standard Time 08:00-09:30 (UTC+2) CEST Time Zone (Rome, Italy) 23:00-00:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**EIDWT-S3**	Juggapong Natwichai, Thailand	**EIDWT-S4**	Yoshihiro Okada, JP
Slot 4 17:00-18:30 (UTC+9) Japan Standard Time 10:00-11:30 (UTC+2) CEST Time Zone (Rome, Italy) 01:00-02:30 (UTC-7) Pacific Daylight Time (Victoria, CA)	**EIDWT-S5**	Elis Kulla, JP	**EIDWT-S6**	Olivia Fachrunnisa, Indonesia

2nd Day: Friday, 24 February, 2023	Room #1 Meeting ID: 824 2814 7012		Room #2 Meeting ID: 812 3258 2940	
	Session title	Session Chair	Session title	Session Chair
Slot 1 13:00-14:30 (UTC+9) Japan Standard Time 06:00-07:30 (UTC+2) CEST Time Zone (Rome, Italy) 21:00-22:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**EIDWT-S7**	Makoto Takizawa, JP	**EIDWT-S8**	Shinji Sakamoto, JP
Slot 2 15:00-16:30 (UTC+9) Japan Standard Time 08:00-09:30 (UTC+2) CEST Time Zone (Rome, Italy) 23:00-00:30 (UTC-7) - 1 day: Pacific Daylight Time (Victoria, CA)	**EIDWT-S9**	Tomoya Enokido, JP	**EIDWT-S10**	Makoto Ikeda, JP
Slot 3 17:00-18:00 (UTC+9) Japan Standard Time 10:00-11:00 (UTC+2) CEST Time Zone (Rome, Italy) 01:00-02:00 (UTC-7) Pacific Daylight Time (Victoria, CA)	**Keynote #2: Dr. Ricardo Rodriguez Jorge** **Meeting ID: 824 2814 7012**			

3rd Day: Saturday, 25 February, 2023	**EIDWT-2023 Steering Committee Meeting and Discussion**

Additional information

The session schedules indicated in the program are based on the UTC+9:00 time zone.