The 7th International Conference on Frontier Computing

~ Theory, Technologies, and Applications ~

FC 2018

KUALA LUMPUR, MALAYSIA
JULY 3-6, 2018

Organized by

Frontier Computing Conference Group

Message from General Chairs

The International Conference on Frontier Computing – Theory, Technologies, and Applications (FC) was first proposed in early 2010 on an IET executive meeting. This conference series aims at providing an open forum to reach a comprehensive understanding to the recent advances and emergence in information technology, science, and engineering, with the themes in the scope of Communication Network Technology and Applications, Business Intelligence and Knowledge Management, Web Intelligence, and any related fields that prompt the development of information technology. This will be the fourth event of the series, in which fruitful results can be found in the digital library or conference proceedings of FC 2010 (Taichung, Taiwan), FC 2012 (Xining, China), FC 2013 (Gwangju, Korea), FC2015(Bangkok, Thailand), FC2016 (Tokyo, Japan), and FC2017(Osaka, Japan).Each event brings together the researchers worldwide to have excited and fruitful discussions as well as the future collaborations.

The papers accepted for inclusion in the conference proceeding primarily cover the topics: database and data mining, networking and communications, web and internet of things, embedded system, soft computing, social network analysis, security and privacy, optics communication, and ubiquitous/pervasive computing. Many papers have shown their great academic potential and value, and in addition, indicate promising directions of research in the focused realm of this conference series. We believe that the presentations of these accepted papers will be more exciting than the papers themselves, and lead to creative and innovative applications. We hope that the attendees (and readers as well) will find these results useful and inspiring to your field of specialization and future research.

On behalf of the organizing committee, we would like to thank the members of the organizing and the program committees, the authors, and the speakers for their dedication and contributions that make this conference possible. We would like to thank and welcome all participants to Kuala Lumpur, Malaysia. Though most of countries may share some similar characteristics, you will find that culture of Malaysia is quite different from many aspects, such as art, religion, nomadic life style, food, and music. Kuala Lumpur is the capital city in Malaysia. We encourage the participants to take this chance to see and experience Southern Asia, especially the remote counties and the nomadic life style there. We also sincerely hope that all participants from overseas and from Malaysia enjoy the technical discussions at the conference, build a strong friendship, and establish ties for future collaborations.

We send our sincere appreciations to the authors for their valuable contributions and the other participants of this conference. The conference would not have been possible without their support. Thanks are also due to the many experts who contributed to making the event a success.

July 2018

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Day 1

July 3, 2018 (Tuesday)

	Lotus	Frangipani	Orchid
09:00~10:30	Session 1-1	Session 1-2	Session 1-3
10:30~11:00	Coffee Break		
11:00~12:30	Session 2-1	Session 2-2	Session 2-3
12:30~14:00	Lunch		
14:00~15:30	Session 3-1	Session 3-2	Session 3-3
15:30~16:00	Coffee Break		
16:00~17:00	Invited Talk	Fi-Award Competition	
17:00~	Enjoy the beauty of Kuala Lumpur		

Day 2

July 4, 2018 (Wednesday)

	Lotus	Frangipani	Orchid
09:00~10:30	Session 4-1	Session 4-2	Session 4-3
10:30~11:00	Coffee Break		
11:00~12:30	Session 5-1	Session 5-2	Session 5-3
12:30~14:00	Lunch		
14:00~15:30	Session 6-1	Session 6-2	Session 6-3
15:30~15:50	Coffee Break		
15:50~17:00	Session 7-1	Session 7-2	Session 7-3
17:00~18:00	**Room: Hibiscus** Keynote Speech		
18:00~	**Room: Hibiscus** Banquet		

Day 3

July 5, 2018 (Thursday)

10:30~12:00	Academic discussion I
13:30~17:00	Academic discussion II

Day 4

July 6, 2018 (Friday)

10:30~12:00	Executive Meeting

Keynote Speaker

Chao-Tung Yang, Ph.D.
Professor
Department of Computer Science
Tunghai University
Taiwan

Smart Campus Construction in AI, Big Data, IoT, and Cloud Computing Era: A Case of Smart Power Saving Service

Abstract

With the flourishing of the Internet of Things (IoT) technology, ubiquitous power data can be linked to the Internet and be analyzed for real-time monitoring requirement. Numerous power data would be accumulated to even Terabyte level as the time goes. To approach a real-time power monitoring platform on them, efficient and novel implementation techniques have been developed and formed to be the kernel material of this talk. How to reduce expenses by reducing electricity consumption, and effective energy conservation in the huge campus of electricity load, lower electricity costs and unnecessary consumption is essential. The campus building electricity information through smart meters is collected and processed a massive amount of data by Big Data processing techniques. The proposed system adopts the big data and cloud computing technologies in Hadoop because of the big data collection, data storage, and the computational efficiency of data analysis. The data collection and storage are handled by the Hadoop subsystem and the data ingestion to Hive data warehouse is conducted by the Spark unit. We proposed an architecture to import existing power data storage system of our campus into Big data platform with Data Lake. We use Apache Sqoop to transfer historical data from existing system to Apache Hive for data storage. Apache Kafka is used for making sure the integrity of streaming data and as the input source for Spark streaming that writing data to Apache HBase. To integrate the data, we use the concept of Data Lake which is based on Hive and HBase. Apache Impala and Apache Phoenix are individually used as search engines for Hive and HBase. We used Apache Spark to analyze the power consumption of the campus using analysis module of power anomaly, power consumption forecasting, and power failure analysis. The kernel contributions of this research work can be highlighted by two parts: (1) Multi-layer software modules are applied to design and implement the real-time power-monitoring platform embedded with some excellent characteristics of high efficiency, high feasibility, and low cost. (2) The rudimental experiments are conducted to verify the query-response efficiency, and performance evaluations for the proposed real-time power monitoring platform, which reveals the high feasibility of the target research goals.

Biography

Dr. Chao-Tung Yang is a Distinguished Professor of Computer Science at Tunghai University in Taichung, Taiwan. He received a B.Sc. degree in Computer Science from Tunghai University, Taichung, Taiwan, in 1990, and the M.Sc. degree in Computer Science from National Chiao Tung University, Hsinchu, Taiwan, in 1992. He received the Ph.D. degree in Computer Science from National Chiao Tung University in July 1996. He won the 10th 1996 Acer Dragon Award for an outstanding Ph.D. dissertation. He has worked as an Associate Researcher for ground operations in the Ground System Section of the National Space Organization (NSPO) in Hsinchu Science-based Industrial Park since Oct. 1996. In August 2001, he joined the faculty of the Department of Computer Science at Tunghai University as an Associate Professor. He is a full Professor started in August 2007 and as a Distinguished Professor in August 2015. He got three times Outstanding Industry-Academic Cooperation Awards in 2012, 2014, 2015 and twice Excellent Industry-Academic Cooperation Awards in 2013, 2016, respectively, from Ministry of Science and Technology (MOST). Also, he got three times Outstanding Research Paper Awards and twice Excellent Industry-Academic Cooperation Awards from Tunghai University in 2007, 2011, 2014, and 2014, 2015, respectively. Dr. Yang was awarded eight times (2010~2017) Talent Awards from Ministry of Science and Technology (MOST). He is serving in a number of journal editorial boards, including Future Generation Computer Systems (SCIE), International Journal of Communication Systems (SCIE), KSII Transactions on Internet and Information Systems (SCIE), Journal of Cloud Computing, IJ-CLOSER, International Journal of Next-Generation Computing (IJNGC), "Next Generation Internet of Things (IoT) and Cloud Security Solutions" Special Issue of International Journal of Distributed Sensor Networks (SCIE), "Grid Computing, Applications and Technology" Special Issue of Journal of Supercomputing (SCIE), and "Grid and Cloud Computing" Special Issue of International Journal of Ad Hoc and Ubiquitous Computing (SCIE). Dr. Yang has published more than 300 papers in journals, book chapters and conference proceedings. His present research interests are in Cloud computing and Big data, Parallel and multicore computing, and Web-based applications. He is both a member of the IEEE Computer Society and ACM. He is also both a member of IICM and TACC in Taiwan.
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Day 1
July 3, 2018

Session 1-1

The 2018 International Workshop on Advanced Information Communication and Applications (AICA 2018)
Chair: Jun-Hong Shen, Asia University, Taiwan

1. **The molecular simulation for evaluating the binding ability of DNA aptamer to IgG**
   Wen-Pin Hu, Hui-Ting Lin, Wen-Yu Su, Wei Yang, Wen-Yih Chen and Jeffrey J. P. Tsai
2. **A Social influence Account of Problematic Smartphone Use**
   Chi-Ying Chen and Shao-Liang Chang
3. **Film classification using HSV distribution and deep learning neural networks**
   Ching-Ta Lu, Jun-Hong Shen, Ling-Ling Wang, Chia-Hua Liu, Chia-Yi Chang and Kun-Fu Tseng
4. **Neighbor Link-based Spatial Index for k-Nearest-Neighbor Queries in Wireless Systems**
   Jun-Hong Shen, Ching-Ta Lu and Hong-Ray Chu
5. **A Research of Demodulation based Technique for Frequency Estimation**
   Zhi Quan and Chaoyi Ma

Session 1-2

New Trends in Machine Learning
Chair: Dr. Yun-Huoy Choo, Universiti Teknikal Malaysia Melaka, Malaysia

1. **Selection Issues of Kernel Function and Its Parameters of Hard Margin Support Vector Machine in a Real-world Handwriting Device**
   Yan Pei, Lei Jing and Jianqiang Li
2. **Data Imputation in EEG Signals for Brainprint Identification**
   Siaw-Hong Liew, Yun-Huoy Choo and Yin Fen Low
3. **Interpretable Learning: A Result-oriented Explanation for Automatic Cataract Detection**
   Jianqiang Li, Liyang Xie, Li Zhang, Lu Liu, Pengzhi Li, Ji-Jiang Yang and Qing Wang
4. **Adaptive Threshold-Based Algorithm for Multi-Objective VM Placement in Cloud Data Centers**
   Nithiya Baskaran and Eswari R
5. **A Coalitional Graph Game Framework for Broadcasting in Wireless Networks**
   Yu-Wei Chan, Min-Kuan Chang and Wei-Chun Ho

Session 1-3

The 2018 International Workshop on Artificial intelligence, Big data and Cloud computing application and technology (ABCat 2018)
Chair: Chen-Kun Tsung

1. **The Implementation of Wi-Fi Log Analysis System with ELK Stack**
   Yuan-Ting Wang, Chao-Tung Yang, Endah Kristiani, and Yu-Wei Chan

2. **The Implementation of NetFlow Log System Using Ceph and ELK Stack**
   Yuan-Ting Wang, Chao-Tung Yang, Endah Kristiani, Ming-Lun Liu, Ching-Han Lai, Wei-Je Jiang, and Yu-Wei Chan

3. **Understanding the motivation for exercise through smart bracelets: The importance of a healthy lifestyle**

   Chia-Hsien Wen, Wei-Yueh Chang, Tsan-Ching Kang, Chen-Lin Chang, and Yu-Wei Chan

4. **Examining the impact of exercise tracking data on promoting regular exercise among university students**

   Chia-Hsien Wen, Wei-Yueh Chang, Tsan-Ching Kang, Chen-Lin Chang, and Yu-Wei Chan

5. **Matching Game-based Power Control in Cooperative Cognitive Radio Networks**

   Min-Kuan Chang, Yong-Jen Mei, Chao-Tung Yang, Yu-Wei Chan, and Wun-Ren Chen

Session 2-1
The 2018 International Workshop on Advanced Information Communication and Applications (AICA 2018)
Chair: Yong-Kok Tan

1. **Hybrid technology in video annotation by using the APP and Raspberry Pi - Applied in agricultural surveillance system**
   Yong-Kok Tan, Lin-Lin Wang and Deng-Yuan Theng

2. **A Memory-Friendly Life Film Editing System for Smart Devices**
   Shih-Nung Chen and Po-Zung Chen

3. **A Research on Scenic Area Tourists Estimation Mechanism based on Vehicle Type Recognition in Surveillance Images**
   Edgar Chia-Han Lin

4. **A Supervised Approach for Patient-specific ICU Mortality Prediction using Feature Modeling**
   Gokul S Krishnan and Sowmya Kamath S

Session 2-2
Advanced Topics in Big Data Science and Computational Intelligence
Chair: Yan Pei, University of Aizu, Japan

1. **An Intelligent Danger Detection System for Blind People**
   Chun-Hsiung Tseng, Lin Hui, Yung-Hui Chen and Jia-Long Li

2. **The Analysis of Learning Motivation, Interest, Problem Solving Capability and Learning Performance in Programming Design to Non-information/Electronic related Students Studying in University of Technology**
   Yung-Hui Chen, Lin Hui, Chun-Hsiung Tseng, Wei-Chun Lee and Wei-Chieh Cheng

3. **Elementary School Teachers' Attitudes Toward Flipped Classrooms**
   Hsuan-Pu Chang

4. **Exploring User Interface Layout of Responsive Web Design: Evidence from Eye-Movement Data**
   Chun-Chia Wang, Chun-Hong Huang, Chung-Chih Yang and Chun-Chia Wang

Session 2-3

The 2018 International Workshop on Artificial intelligence, Big data and Cloud computing application and technology (ABCat 2018)

Chair: Yu-Wei Chan, Providence University, Taiwan

1. **On Construction of a Power Data Lake Platform Using Spark**
   Tzu-Yang Chen, Chao-Tung Yang, EndahKristiani, and Chun-Tse Cheng
2. **Recurrent Neural Networks for Analysis and Automated Air Pollution Forecasting**
   Ching-Fang Lee, Chao-Tung Yang, EndahKristiani, Yu-TseTsan, Wei-Chen Chan, and Chin-Yin Huang
3. **Scalable Data-Storage Framework for Smart Manufacturing**
   Hsiao-Yu Wang and Chen-Kun Tsung
4. **A Difference Detection Mechanism between API Cache and Data Center in Smart Manufacturing**
   Chun-Tai Yen, Chen-Kun Tsung, Wen-Fang Wu
5. **Reposition Cyber-Physical System to Minimizing the Gap between Cyber and Physical**
   Chun-Tai Yen, Chen-Kun Tsung

Session 3-1

Chair: Chuan-Feng Chiu, Minghsin University of Science and Technology, Taiwan

1. **Association Rule Analysis Model of Teacher-student Interactive Satisfaction of Full-time Teachers in Overseas Chinese University**
   Chi-Ming Yao, Chien-Ya Lin and Wen-Hsing Kao
2. **Research on Application's Credibility Test Method and Calculation Method Based on ABD**
   Xuejun Yu and Ran Xiao
3. **Monitoring Bio-Chemical indicators using ML techniques for an Effective Lga Prediction Model with reduced computational overhead**
   Faheem Akhtar, Jianqiang Li, Faheem Akhtar, Yu Guan, Azhar Imran and Azeem Muhammad
4. **Comparison of Different Machine Learning Methods to Forecast Air Quality Index**
   Bo Liu, Chao Shi, Huanling You, Yan Dong, Jianqiang Li, Yong Li, Jianlei Lang and Rentao Gu
5. **Effect of Fintech on the Cost Malmquist Productivity Index in the China Banking Industry ,**
   Liu-Wei Liao, Cui-You Yao and Yi-Ping Yang

Session 3-2

Chair: Lin Hui, Tamkang University, Taiwan

1. **Simulation Analysis of Information-based animal observation system**
   Lin Hui and Kuei Min Wang
2. **Investigation of skin burns due to enhanced electrical conductivity effect during radiofrequency ablation**
   Huang-Wen Huang, Fu-Yi Hung and Lin Hui
3. **GVM based copy-dynamics model for electricity load forecast**
   Binbin Yong, Liang Huang, Fucun Li, Jun Shen, Xin Wang and Qingguo Zhou
4. **Machine Learning and SIFT Approach for Dynamic Object Image Recognition**
   Yuan-Tsung Chang and W.G.C.W. Kumara

Session 3-3

Chair: Chun-Hong Huang, Lunghwa University of Science and Technology, Taiwan

1. **The Implementation of Conversation Bot for Smart Home Environment**
   Chuan-Feng Chiu, Steen J. Hsu, Pei-Ting Chen, Yun-Ju Chen and Chun-Yu Lu
2. **Predicting Students' Academic Performance using Utility Based Educational Data Mining**
   Sanvitha Kasthuriarachchi and Sidath Liyanage
3. **Theme evolution analysis of public security events based on Hierarchical Dirichlet Process**
   Hong Hu, Xiao Wei and Zhanxing Hao
4. **Evaluation of New Energy Operation Based on Comprehensive Evaluation Method**
   Hang Yin, Zifen Han, Jin Li, Xiang Wu, Ningbo Wang and Yan Li

Invited Talk

Title: Recent research topics in computational intelligence and machine learning

Presenter: Yan Pei, University of Aizu, Japan

Yan Pei obtained Doctorate of Engineering from Kyushu University, Fukuoka, Japan. He received the B.Eng. degree and M.Eng. degree from Northeastern University, Shenyang, China. He is currently working at the University of Aizu, Japan, as an Associate Professor. His research interests include Computational Intelligence, Machine Learning, and Software Engineering.

Abstract: Computational intelligence and machine learning are two conventional research fields in artificial intelligence. One refers to the ability of natural and artificial agents to behave intelligently, and the other refers more or less to the ability of a computer program to learn from a set of inputs either in a supervised method by being actively train or unsupervised method by exploring the characteristics of raw data on its own. In this talk, we will share some new techniques in these two fields, they include: [1] Accelerating evolutionary computation using estimated convergence points; [2] Principal component selection using interactive evolutionary computation; [3] Autoencoder using kernel method; and [4] Kernel partial least squares regression by projecting both independent and dependent variables into reproducing kernel Hilbert space. Some basic knowledge will be provided and discussed in this talk as well.

Keywords: Computational intelligence, Machine learning, Interactive evolutionary computation, Kernel method

Fi-Award Competition

1. **Learning Traffic Rules And Signs in Virtual Reality**
   Yi-Chun Liao, Jia-Jun Lin
2. **Wu Bai Wu Bo Be-Virtual Reality Temple**
   Lin Hui, Yung-Hui Chen, Fu-Yi Hung, Kai-Ze Weng, Chen-Yen Wang, Wen-Pin Hsu, Hung-Ming Liang, Wei-Ting Lin, Guan Yi Jhan, Jeng-Chung Lien
3. **Text mining based on the Internet forums of cars**
   Lin Hui, Fu-Yi Hung, I-Ting,Tseng, Yi-Hsin,Sang, Yu-Hsiang Cheng, Li-Ling Liu, Kai-Ze Weng

Day 2
July 4, 2018

Session 4-1

The 2018 International Workshop on Emerged Soft-computing and Management Decision-making (ESMD 2018)

Chair: You-Shyang Chen, Hwa Hsia University of Technology, Taiwan

1. **A Study on Computer Vision Techniques for Self-Driving Cars**
   Nakul Agarwal, Cheng-Wei Chiang and Abhishek Sharma
2. **Real Time Human Fall Detection Using Accelerometer and IoT**
   Kritika Johari, Jing-Wei Liu, Thinagaran Perumal, Abhishek Sharma, Tanmay Chaturvedi and Jieh-ren Chang
3. **A Study of the Interactive Styles of an Augmented Reality System for Cultural Innovative Product Design**
   Cheng-Wei Chiang and Jing-Wei Liu
4. **Mechanism and application of smart city by developing intelligent cloud-based transportation vehicle surveillance system**
   You-Shyang Chen and Yao-Wen Kan

Session 4-2

Chair: Min-Feng Lee, Taiwan

1. **Adaptive cyber security computing framework in machine learning**
   Min-Feng Lee
2. **An Analysis on the Relationship between the Importance of Clinic Customers and Customer Loyalty – Based on Internal Medicine Clinic**
   Min-Hui Ding, Pi-Chung Wang, Kuan- Cheng Lin, Wen-Hsing Kao and Chien-Ya Lin
3. **A Study on the User Cognitive Model of Learning Management System**
   Hsin-Chao Ho, Mong-Te Wang, Shu-Chuan Shih and Ching-Pin Tsai
4. **A Virtual Interactive System for Merchandising Stores**
   Meng-Yen Hsieh, Hua Yi Lin and Tien Hsiung Weng

Session 4-3

The 2018 International Workshop on Internet of Thing and FinTech Application (ITFA 2018)
Chair: Wei-Chen Wu, Hsin Sheng College of Medical Care and Management, Taiwan

1. **The Historical Review and Current Trends in Speech Synthesis by Bibliometric Approach**
   Guang-Feng Deng, Cheng-Hung Tsai, Tsun Ku
2. **A Study on Social Support, Participation Motivation and Learning Satisfaction of Students in Senior University**
   Hsiang Huang, Zne-Jung Lee, Wei-San Su
3. **A Health Information Exchange Based on Block Chain and Cryptography**

Wei-Chen Wu, Yu-Chih Wei

4. **The Relationship of Oral Hygiene Behavior and Knowledge**
   Cheng youeh Tsai, Frica Chai, Ming-Sung Hsu, Wei-Ming Ou

Session 5-1

The 2018 International Workshop on Emerged Soft-computing and Management Decision-making (ESMD 2018)
Chair: You-Shyang Chen, Hwa Hsia University of Technology, Taiwan

1. **Application of data mining techniques on new product development decision-making**
   You-Shyang Chen, Chien-Ku Lin, Chyi-Jia Huang
2. **Smart counter of hospital for patient drug pickup**
   Cheng-Ming Chang
3. **Impact of Collaboration with LINE Application on Work Performance**
   Jerome Chih-Lung Chou
4. **IOT Based Smart Water Monitoring using Image Processing**
   Jieh-Ren Chang, Nakul Agarwal,YipengBao, Abhishek Sharma
5. **A study on Blockchain Applications in Healthcare**
   Abhishek Sharma, Ying-Hsun Hung, Punit Agarwal and Muskan Kalra

Session 5-2

Chair: Rung-Ching Chen, Chaoyang University of Technology, Taiwan

1. **Combining Voice and Image Recognition for Smart Home Security System**
   Hung-Te Lee and Rung-Ching Chen
2. **Micro-blog Topic Hybrid Recommendation Algorithm Based on Collaborative Filtering and Content Filtering**
   Shunxiang Zhang and Xingyu Zhang
3. **Establishment of Model of Open Audition for Freshmen Athletes**
   Yu-Yang Chen, Tai-Lun Chan and Mong-Te Wang
4. **Control Strategy-based Intelligent Planning of Service Composition**
   Yishui Zhu, Lei Tang, Jun Zhang, Zongtao Duan and Hua Jiang

Session 5-3

The 2018 International Workshop on Internet of Thing and FinTech Application (ITFA 2018)
Chair: Wei-Chen Wu, Hsin Sheng College of Medical Care and Management, Taiwan

1. **Privacy-Preserving Authentication and Service Rights Management for the Internet of Vehicles**
   Wei-Chen Wu, Horng-Twu Liaw
2. **RSU beacon aided trust management system for location privacy-enhanced VANETs**
   Yu-Chih Wei, Yi-Ming Chen, Wei-Chen Wu, Ya-Chi Chu
3. **Constructing Prediction Model of Lung Cancer Treatment Survival**

Hsiu-An Lee, Louis R. Chao, Hsiao-Hsien Rau, Chien-Yeh Hsu

4. **Research on the Combination of IoT and assistive technology device -Prosthetic**
   Damping Control as an Example Yi-Shun Chou, Der-Fa Chen

Session 6-1
Chair: Yu-Chih Wei, Overseas Chinese University, Taiwan

1. **Design and implementation of a learning emotion recognition system**
   Kuan-Cheng Lin, Li-Chun Sue, and Jason C. Hung
2. **Application of Deep Reinforcement Learning in Beam Offset Calibration of MEBT at C-ADS Injector-II**
   Jinqiang Wang, Xuhui Yang, Binbin Yong, Lihui Luo, Yuan He and Qingguo Zhou
3. **Leveraging Explicit Products Relationships For Improved Collaborative Filtering Recommendation Algorithm**
   Shunpan Liang, Jinqing Zhao and Fuyong Yuan
4. **A Gragh-based Approach for Semantic Medical Search**
   Qing Zhao, Yangyang Kang, Dan Wang and Jianqiang Li

Session 6-2
International Workshop on Advanced Information Technology 2018(ADVANIT2018)
Chair: Hwa-Young Jeong

1. **Editing k-Nearest Neighbor Reference Set by Growing from Two Extreme Data Points***
   Jinwoo Park, Sungzoon Jo and Hyeon Jo
2. **Risk Assessment for STPA with FMEA Technique**
   Ngoc-Tung La and Gihwon Kwon
3. **Social Network Analysis on Tourism-Related Civil Complaints in Busan Metropolitan City**
   Na-Rang Kim and Soon-Goo Hong
4. **Analysis on Variables Affecting Youth Stress with Bayesian Network**
   Euihyun Jung

5. **GPU-based Fast Motion Synthesis of Large Crowds Based on Multi-Joint Models**
   Mankyu Sung
6. **Sperm Count Analysis using Microscopic Image Processing**
   Hyun-Mo Yang, Dong-Woo Lim, Yong-Sik Choi, In-Hwan Kim, Ailing Lin, and Jin-Woo Jung

Session 6-3
The 2018 International Workshop on Internet of Thing and FinTech Application (ITFA 2018)
Chair: Yu-Chih Wei, National Kaohsiung University of Science and Technology, Taiwan

1. **A study on the demand of latent physical and mental disorders in Taipei City**
   Jui-hung Kao, Horng-Twu Liaw, Po-Huan Hsiao
2. Real-time Analyzing Driver's Image for Driving Safety
   Kuo-Feng Wu, Horng-Twu Liaw, Shin-Wen Chang
3. **A Web Accessibility Study in Mobile Phone for the Aging People with Degradation of Vision**

Chi Nung Chu

4. **The comparison between online social data and offline crowd data: An example of retail stores**
Jhu-Jyun Huang, Tai-Ta Kuo, Ping-I Chen, Fu-Jheng Jheng

Session 7-1
International Workshop on Advanced Information Technology 2018(ADVANIT2018)
Chair: Hwa-Young Jeong

1. **A method to real-time update Speaker Pronunciation Time-Database for the application of Informatized caption Enhancement by IBM Watson API**
Yong-Sik Choi, In-Hwan Kim, Hyun-Mo Yang, Dong-Woo Lim, Ailing Lin and Jin-Woo Jung
2. **A Study of Fandom Crowdsourcing Method Using Big Data**
Se Jong Oh, Mee Hwa Park, Jeong Uijeoung and Ill Chul Doo
3. **Scenario based practical information protection training system using virtualization system**
Sungkyu Yeom , Dongil Shin , Dongkyoo Shin
4. **Cyber Battle Damage Assessment Framework and Detection of Unauthorized Wireless Access Point Using Machine Learning**
Duhoe Kim , Doyeon Kim , Dongil Shin, Dongkyoo Shin, Yong-Hyun Kim
5. **Success factor for autonomous vehicle**
Hwa-Young Jeong

Session 7-2
International Workshop on Advanced Information Technology 2018(ADVANIT2018)
Chair: Chuan-Feng Chiu, Minghsin University of Science and Technology, Taiwan

1. **A Text Mining Approach to Study Individuals' Food Choices and Eating Behavior Using Twitter Feeds**
Ayuna Dondokova, Satyabrata Aich, Hee-Cheol Kim, Gyung Hye Huh
2. **A Multi Criteria Decision Modelling Approach for Gait Analysis of Parkinson's Disease using Wearable Sensors to Compare the Classification Performance Based on the Different Feature Selection Methods**
Satyabrata Aich, Kamalakanta Muduli, Hee-Cheol Kim
3. **Comparison of BVH and KD-tree for the GPGPU acceleration on real mobile devices**
SeungWoo Chung, MinKyoung Choi, DaeGeun Youn and SeongKi Kim
4. **Sentiment Analysis of Korean Teenagers' Language Based on Sentiment Dictionary Construction**
Jason Kim, Min Kyoung Kim, Yeoeun Park, Eomji Kim, Junhee Lee, Dongho Kim and Seonho Kim

Session 7-3
International Workshop on Advanced Information Technology 2018(ADVANIT2018)
Chair: Yu-Wei Chan, Providence University, Taiwan

1. **A Study on Visual Programming Platform Design for VR/AR SW Education**
Hae-Jong Joo, Ho-Bin Song and Min-Kyu Park
2. **Interface for VR, MR and AR based on Eye-tracking Sensor Technology**
Pill-Won Park, Ho-Bin Song, Hae-Jong Joo
3. **A Study of Security Model for Mobile Education Service**
Dae Bum Lee and hai-Gil Choi
4. **How easy is it to surf the Semantic Web?**
Jungmin Lee, Changu Kang, Jisun Chae, Hyeonmin Park, Seongbin Park

5. **Development of Supporting Tool for Executing Synthesized Automaton representing Controller**
   Seonil Jung and Gihwon Kwon

Conference Venue

The 7th International Conference on Frontier Computing - Theory, Technologies and Applications will be held at the **DoubleTree by Hilton Hotel Kuala Lumpur.**

Directions from the Hotel Staff

FROM KUALA LUMPUR INTERNATIONAL AIRPORT(KLIA) Express Train

KLIA Ekspres is the fastest way to travel from KLIA to Kuala Lumpur, connecting the airport to the city centre in 28 minutes by stopping at KL Sentral. At KL Sentral, switch to the Rapid KL train arriving at Ampang Park station followed by an 8-minute short walk using the covered link bridge to arrive hotel.

Airport Taxis

The taxi and limo services at KLIA operate through a coupon system that travelers can purchase at Airport Limo counters located at the Arrival Hall, Main Terminal Building:

1. International Arrival Hall (just after Customs, before the public arrival area)

2. Domestic Arrival Hall (public area after Domestic Baggage Clearance)

3. Domestic Baggage Reclaim, Arrival Level

Hotel Limo Pick-Up Services

This can be pre-arranged with the hotel via guest services prior to arrival to make the 60km journey hassle-free and comfortable. Our airport representative will be on hand to direct you to the awaiting limousine.

FROM KUALA LUMPUR INTERNATIONAL AIRPORT 2 (KLIA 2)

Express Train

KLIA 2, located 2km away from KLIA, is accessible via a 2.2km extension of the existing express train line. KLIA Ekspres is an express rail service that operates a non-stop route from KL Sentral to KLIA. The route is extended to KLIA 2, providing the same express service for passengers traveling to and from KL Sentral to both airports. It is a 33-minute journey from KLIA 2 to KL Sentral, after which travelers are to switch to the Rapid KL LRT train arriving at Ampang Park station followed by an 8-minute short walk using the covered link bridge to arrive hotel.

Airport Taxis

Taxi services are available 24 hours at the Transportation Hub located at Level 1 of the Gateway@KLIA2 building. There are 3 types of taxi services offered, namely Coupon Taxi, Metered Taxi or Premier Taxi. After you have selected your taxi services at the taxi payment counter, exit Door 4 to queue up for your taxi.

Hotel Limo Pick-Up Services

This can be pre-arranged with the hotel via guest services prior to arrival to make the 60km journey hassle-free and comfortable. Our airport representative will be on hand to direct you to the awaiting limousine.

Where to Make Contact

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