



Final Program



SE-ICBM (Software Engineering - IoT, Cloud, Big data, and Mobile Computing) 2020



October 17, 2020
Soongsil University, Seoul, Korea

Sponsored by: International Association for Computer & Information Science (ACIS)
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Workshop Program Chair

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National University, Korea

Young Cheol Byun

Je Ju National University, Korea

Yong Pil Geum

Dean of Innovation Start-up Growth, Daegu Catholic University, Korea

Program at a Glance

Saturday October 17, 2020

| Time | Activity | Location |
|---------------|--------------------------------------|----------------------------|
| 8:00 – 5:00 | Registration | Foyer |
| 9:00 – 10:00 | Opening Ceremony | Room 309 (100 people) |
| | Keynote 1 | Room 309 |
| 10:00 – 10:10 | Coffee Break | Foyer |
| 10:10 – 10:50 | Keynote 2 | Room 309 |
| 11:00 – 12:00 | Session 1A Session 1B | Room 305 Room 306 |
| 12:00 – 1:00 | Lunch (complementary) | |
| 1:00 – 3:00 | Session 2A Session 2B | Room 305 Room 306 |
| 3:00 – 3:30 | Coffee Break | Foyer |
| 3:30 – 5:30 | Session 3A Session 3B | Room 305 Room 306 |
| 6:00 – 7:30 | Award Presentation Dinner Banquet | Computer Science Institute |

Keynote 1

New Business Models with ICBM

Hwang Ha Jin, Ph.D.

Head Professor, Department of Business Analytics, Sunway University Business School

Sunway University, Malaysia

Abstract

The opportunities of billions of people connected by mobile devices, with massive processing power, storage capacity, and access to knowledge, are unlimited. And these possibilities will be multiplied by emerging technology breakthroughs in the fields of ICBM such as the Internet of Things, Cloud Computing, Big Data Analytics, and Machine Learning.

ICBM has the potential to enhance world economic growths, raise global income levels and improve the quality of life for populations around the world. ICBM is shaking up old business models and presenting strategic options that enhance competitiveness and sustainability. On the supply side, developments in energy storage, grid technologies and real time processing of customer and asset performance are transforming business models. On the demand side, customers value and expect personalized interaction at all points of their consumer experience. Facing an exponential speed of change in technology, how can companies recognize adaptive challenges to their companies and build sustainability and resilience?

There is an urgent need to transform traditional business models with the emergence of ICBM. The most successful business model today, in terms of customer value, revenue growth rates and market valuation, is the digital platform business model. 70 % of the world's top most valuable companies (Amazon, Apple, Alibaba, Microsoft et al) and the 70 % of the \$ 1 billion + Unicorn startups (Didi, Airbnb et al) operate this model.

Biography

Dr. Ha Jin Hwang received MBA (1986) and DBA (1990) from Mississippi State University, U.S.A.. He is currently Head and Professor at Department of Business Analytics, Sunway University Business School, Sunway University, Malaysia. Dr. Hwang taught at Minnesota State University (1989-1991), Mankato, Minnesota, U.S.A., Catholic University of Daegu (1991-2010), Korea, and KIMEP University, Kazakhstan (2010-2016). He served as President of Korea Association of Information Systems (2005) and President of Korea Internet Electronic Commerce Association (2008). He also served as Program Co-Chair for IEEE/SNPDI International Conference (2018), Publicity Chair for IEEE/ACIS International Conference (2008), Portland, U.S.A., and Conference Chair for KAIS International Conference (2005), Daegu, Korea. Dr. Hwang's research interests include Internet of Things Applications, U-Healthcare systems, Social Media Analytics, Intelligent Supply Chain Management Systems.

Keynote 2

Smart Farming Technology

Hyun Yoe, Ph.D.

Director of AI based Smart Agriculture Grand ICT Research Center

Sunchon National University, Korea

Abstract

Smart Farming is a farming management concept using modern technology to increase the quantity and quality of agricultural products. And it is a new trend in Agriculture Technology. Like many other industries, technology is changing the ways farmers manage their operations. New developments in machinery, software and genetics are allowing farmers to have more control over how they plant and manage their crops. Smart Farming Technology has played a big role in developing the agricultural industry. In this keynote overall Smart Farming Technology is briefly introduced. Also, some examples of Smart Farm will be shown. Finally, standard activity about Smart Farming Technology is introduced.

Biography

Hyun Yoe is Director of AI based Smart Agriculture Grand ICT Research Center at Sunchon National University, Korea. He is a Professor of Dept. of Information and Communication engineering, Sunchon National University. His research interests are in Smart Farming Technology and related areas. He is a vice president of Korea Association of Smart-Farm Industry, which is an association of Smart-Farm companies in Korea. He is one of the premier speakers on Industrial approaches to Smart Farming Technology. He is deeply interested in the standardization of smart farming technology these days, and he is making a lot of effort to create new smart farming standards that industries will use.

Saturday, October 17, 2020

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|---------------------------------------|-----------------|
| 8:00am-5:00pm – Registration | Foyer |
| 9:00-9:20am – Opening Ceremony | Room 309 |
| 9:20-10:00am – Keynote 1 | Room 309 |
| 10:00-10:10am – Coffee Break | Foyer |
| 10:10-10:50am – Keynote 2 | Room 309 |

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|--|---|---|
| Session 1a (ICBM 2020) | | Room 305 |
| Special Session: Software Engineering for ICBM (IoT, Clouding, Big Data and Mobiles) Applications | | |
| Session Chair: Sun Myung Hwang | | |
| 11:00am-12:00pm | | |
| 11:00 | Fault Localization with Data Flow Information and an Artificial Neural Network | Jun-Hyuk Jo, Jihyun Lee, Aman Jaffari and Eunmi Kim |
| 11:15 | Variability Modeling in Software Product Line: A Systematic Literature Review | Aman Jaffari, Jihyun Lee, and Eunmi Kim |
| 11:30 | The Use of Big Data Analytics to Improve The Supply Chain Performance in Logistics Industry | Lai Yin Xiang, Ha Jin Hwang, Haeng Kon Kim, and Monowar Mahmood |
| 11:45 | A Mobile Game Algorithm for Programming Education | Sun Myung Hwang, Hee Gyun Yeom |

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| Session 1b (ICBM 2020) | | Room 306 |
| Special Session: Software Engineering for ICBM (IoT, Clouding, Big Data and Mobiles) Applications | | |
| Session Chair: Hyun Sug Cho | | |
| 11:00am-12:00pm | | |
| 11:00 | Development of Smart U-health care Systems | Symphorien Karl Yoki Donzia, Haeng Kon Kim |
| 11:15 | Development of U-health care Systems Using Big Data | Symphorien Karl Yoki Donzia, Yong Pil Guem and Haeng Kon Kim |
| 11:30 | An Implementation of a System for Video Translation Using OCR | Sun Myung Hwang, Hee Gyun Yeom |
| 11:45 | Research for Automatic Generation of 2D Design Drawings of Firefighting Equipment using AI Region Classification | Hwa-Kyu Lee, Jun Hee Choi, and Hyun-Sug Cho |

12:00-1:00 pm – Lunch

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| Session 2a (ICBM 2020) | | Room 305 |
| Special Session: Software Engineering for ICBM (IoT, Clouding, Big Data and Mobiles) Applications | | |
| Session Chair: Jeong Ah Kim | | |
| 1:00pm-3:00pm | | |
| 1:00 | Research on Predicting Ignition Factors Through Fire Big Data Analysis | Jun-hee Choi, Hyun Sug Cho |
| 1:15 | Study on Agent Architecture for Context-Aware Services | Symphorien Karl Yoki Donzia, Ha Jin Hwang, Haeng Kon Kim |
| 1:30 | Analyses on Psychological Steady State Variations Caused by Auditory Stimulation | Jeong Hoon Shin |
| 1:45 | Health Informatics: A Telehealth User- Friendly Design Monitoring Approach | Haeng Kon Kim |
| 2:00 | Big Data Management System for U-healthcare | Ha Jin Hwang Haeng Kon Kim |
| 2:15 | Flipped Learning and Unplugged Activities for Algorithm class | Jeong Ah Kim |
| 2:30 | Integrated Environment for Software Product Line | Jeong Ah Kim |

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| Session 2b (ICBM 2020) | | Room 306 |
| Special Session: Software Engineering for ICBM (IoT, Clouding, Big Data and Mobiles) Applications | | |
| Session Chair: Yung Cheol Byun | | |
| 1:00pm-3:00pm | | |
| 1:00 | Comparative Study on Uses and Gratifications of Social Media in Malaysia Using Niche Theory | Ha Jin Hwang, Haeng Kon Kim, and Norazryana Mat Dawi |
| 1:15 | Secure Transactions Management Using Blockchain as a Service Software for the Internet of Things | Prince Waqas Khan, Yung-Cheol Byun |
| 1:30 | Analyzing the Performance of User-Generated Contents in B2B Firms Based on Big Data and Machine Learning | Zeinab Shahbazi, Yung-Cheol Byun |
| 1:45 | Blockchain and Machine Learning for Identifying Fraudulent Activities during Loan Transactions in the Banking Sector | Debapriya Hazra, Yung-Cheol Byun |
| 2:00 | Plant Growth Measurement System using Image Processing | Meonghun Lee, Haeng Kon Kim, and Hyun Yoe |
| 2:15 | Precision watering system design according to the soil condition of crops | Seungjae Kim, Meonghun Lee, Haeng Kon Kim, and Hyun Yoe |
| 2:30 | Smart barn Monitoring System in LoRa Network | Meonghun Lee, Haeng Kon Kim, and Hyun Yoe |
| 2:45 | A study of optimized EEG signal induction/extraction techniques for basic motion control of personal robots for physically impaired users | Jeong Hoon Shin |

3:00-3:30pm – Coffee Break

Foyer

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| Session 3a (ICBM 2020) | Room 305 |
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| Special Session: Software Engineering for ICBM (IoT, Clouding, Big Data and Mobiles) Applications | | |
| Session Chair: Eun Jung Cho | | |
| 3:30pm-5:30pm | | |
| 3:30 | Service Against Abnormal Situation of Devices for Greenhouse based on Clou Computing | Meonghun Lee, Hyun Yoe |
| 3:45 | The Prediction of COVID-19 using deep learning algorithms | Myeong Hwa Kim |
| 4:00 | The effective image detection in geenrative Adversarial networks | Myeong Hwa Kim |
| 4:15 | The empirical research of preview product Image in e-commerce | Lim Eun Taek |
| 4:30 | The technology adoption in smart health care service | Lim Eun Taek |
| 4:45 | Implementation of cloud monitoring system based on open source | Eun-Jung Jo |
| 5:00 | Evaluation on technology innovation efficiency in high-tech industry | Eun-Jung Jo |
| 5:15 | Lifelong education of New Normal 2.0 according to AI and EduTech industry trends and untact trend spread | Choengjae Lee |

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| Session 3b (ICBM 2020) | | Room 306 |
| Special Session: Software Engineering for ICBM (IoT, Clouding, Big Data and Mobiles) Applications | | |
| Session Chair: Sun Woong Seo | | |
| 3:30pm-5:30pm | | |
| 3:30 | A Study on the Prospect of Education and Edutech Trend in Intelligent Information Society | Choengjae Lee |
| 3:45 | A study on the optimal use of CSP(Cloud Service Provider) | Sung Woong Seo |
| 4:00 | The comparision study between public and private cloud | Sung Woong Seo |

6:00-7:30pm – Award Presentation/Dinner Banquet Room Computer Science Institute

ACIS Journal Information

International Journal of Networked and Distributed Computing (IJNDC)

IJNDC is a world-class international journal. IJNDC Journal has been indexed in ESCI and Scopus and will ultimately be indexed in SCI **approximately** within one year.

<http://www.atlantis-press.com/publications/ijn/dc/>

International Journal of Software Innovation (IJSI)

IJSI is a world-class international journal. IJSI Journal has been indexed in ESCI and Scopus and will ultimately be indexed in SCI **approximately** within one year.

<http://www.igi-global.com/ijsi>

International Journal of Big Data Intelligence and Applications (IJBDA)

IJBDA is a world-class international journal. IJBDA Journal has been indexed in Scopus.

<http://www.igi-global.com/ijbdia>

ACIS Official Website

<http://www.acisinternational.org>