Big-Data Analytics for Cloud, IoT, and Cognitive Computing

Kai Hwang

University of Southern California

Abstract: In this keynote speech, Dr. Hwang will address innovative applications of machine learning and big-data analytics on smart clouds, social networks, intelligent robots, and IoT platforms. He will assess machine/deep learning models and open-source software tools to advance the cognitive service industry now heavily pursued by Google, Baidu, Alibaba, Microsoft, Apple, IBM, Huawei, etc. The ultimate goal is to achieve enhanced agility, mobility, security, and scalability of public clouds, IoT platforms, and social-media networks.

His presentation will assesses current AI programs and brain projects at Google X-Lab, TensorFlow, DeepMind AlphaGo, Nvidia Digits 5 for using GPU in deep learning, and CAS/ICT Camericon project, etc. Some hidden R/D opportunities are revealed for building smart machines and self-driving cars. In particular, we will present some new ideas in using blockchains for securing cloud-based transactions in IoT crowdsensing environments; cognitive and AI applications in 5G health-care, desease detection; and large-scale social graph analysis for containing the mental disorder problems.

Speaker's Biographical Sketch:

Kai Hwang is a Professor of Electrical Engineering and Computer Science at the University. of Southern California in Los Angeles. He received the Ph.D. from UC Berkeley. He has published extensively in computer architecture, parallel processing, cloud computing, and network security. His latest two books, entitled *Cloud Computing for Machine Learning and Cognitive Applications* (The MIT Press) and *Big Data Analytics for Cloud/IoT and Cognitive Computing* (Wiley, U.K.) just published in 2017. Chinese editions of these two books will appear in early 2018 by Hua-Zhang Books in China.

An IEEE Life Fellow, he received the very-first CFC Outstanding Achievement Award in 2004 and the Lifetime Achievement Award from IEEE CloudCom2012 for his pioneering work in parallel computing and distributed systems. Four of his graduated Ph.D. students were elected as IEEE Fellows and one an IBM Fellow. He has delivered four dozens of keynote or distinguished lectures in international Conferences or leading Research Centers. Dr. Hwang has performed consulting work with IBM, MIT Lincoln Lab, Chinese Academy of Sciences, and INRIA in France. He has also servered as a visiting chair professor at Tsinghua Univerity and Hong Kong University. He can be reached via kaihwang@usc.edu.