

Cloud Analytics for Intelligent Big-Data in Scientific Discovery

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Abstract: In this talk, Dr. Hwang addresses the growing interest in big-data science surrounding the use of cloud analytics, social networks and the *Internet of things* (IoT). He will assess critical issues to upgrade big-data analysis, privacy and cloud security. The purpose is to achieve enhanced ubiquity, mobility, security, scalability and *quality of service* (QoS) of clouds and highly-visited social/media networks. In particular, he will evaluate the widespread use of clouds over massive datasets generated by e-business, social networks, sensors, RFID, GPS, scientific discovery, etc. His talk reveals major R/D challenges and presents new approaches to preserving data privacy, assuring cloud security, and enhancing cyber intelligence. To remove the security and trust barriers in bare-metal or virtual clouds, he examines the top-10 security and privacy issues released by Cloud Security Alliance in 2012. Some new approaches and hidden opportunities are discussed towards the building of a trusted and intelligent cloud computing environment. Finally, he introduces the new BYOC (*Bring Your Own Cloud*) approach for inter-cloud (mashup) applications especially in social media domain.

Biographical Sketch: Kai Hwang is a Professor of EE/CS at the University of Southern California (USC). He is also an EMC-endowed visiting Chair Professor at Tsinghua University. He received the Ph.D. from University of California, Berkeley in 1972. He has published 8 books and over 230 scientific papers in computer architecture, parallel processing, distributed systems, cloud computing and network security. His books have been adopted worldwide and translated into Chinese, Korean, Spanish, and German languages. His works have been cited more than 12,000 times with an h-index of 49. His latest book: *Distributed and Cloud Computing* was published by Kaufmann in 2012.



Dr. Hwang was recognized with an IEEE Fellow in 1986. He received the very-first 2004 CFC Outstanding Achievement Award, the IPDPS-2011 Founder's Award, and the Lifetime Achievement Award from the IEEE Cloud2012 for his pioneering work in parallel computing and distributed systems. He has served as the founding Editor-in-Chief of the *Journal of Parallel and Distributed Computing* for 28 years. He has produced numerous Ph.D students at Purdue University and at USC. Four of them were elected IEEE Fellows and one an IBM Fellow. He has delivered three dozens of keynote addresses on advanced computing systems and cutting-edge information technologies in major IEEE/ACM Conferences. Hwang has performed advisory, consulting and collaborative work for IBM, Intel, MIT Lincoln Lab, JPL at Caltech, ETL in Japan, Academia Sinica in China, GMD in Germany, and INRIA in France. He can be reached via Email: kaihwang@usc.edu.