SEMINAR

Industrial AI and Industrial Internet for Smart Manufacturing

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ABSTRACT Industrial AI, Big Data Analytics, Machine Learning, and Cyber Physical Systems are changing the way we design product, manufacturing, and service systems. It is clear that as more sensors and smart analytics software are integrated in the networked industrial products and manufacturing systems, predictive technologies can further learn and autonomously optimize productivity and performance. This presentation will address the trends of Industrial AI for future smart industrial internet transformation. First, Industrial AI enabled industrial systems will be introduced. In addition, advanced predictive analytics technologies with case studies will be presented.

BIO Since its inception in 2001, the NSF Industry/University Cooperative Research Center on Intelligent Maintenance Systems (IMS) has been supported by over 100 global companies. IMS was selected as the most economically impactful I/UCRC in the 2012 NSF Economic Impact Study Report, which reported that the Center has delivered to its members a combined benefit of $847.6 million in cost savings, and has returned $238.30 of benefits for every $1 invested by the NSF. He is also the co-Founder of a number of start-up companies including Predictronics (a start-up company through the 2012 NSF ICorp award) and the Foundation Director of Industrial AI (www.iaicenter.com). His team has won 1st Place PHM Data Challenges five times out of nine competitions since 2008.

Prof. Jay Lee also serves as a board member and vice chairman of Hon Hai Precision (Foxconn Technology Group). Additional positions include, senior advisor to McKinsey & Company, member of the Global Future Council of the World Economic Forum (WEF), and member of the Board of Governors of the Manufacturing Executive Leadership Board of Frost Sullivan. He has served as director for product development and manufacturing at United Technologies Research Center (UTRC), as well as program director for a number of programs at NSF including the Engineering Research Centers Program, the I/UCRC Program, and Materials Processing and Manufacturing Program. He also served on the National Research Council (NRC) Board of Manufacturing and Engineering Design from 1999-2005, as well as on a number of NRC Study and Assessment Panels since 1999. He has delivered over 260 keynote and plenary speeches at major international conferences.

He is a Fellow of ASME, SME, PHM (Prognostics and Health Management), and a founding fellow of the International Society of Engineering Asset Management. His awards include the 2012 Prognostics Innovation Award at NI Week by National Instruments, the 2014 NSF Alex Schwarzkopf Technological Innovation Prize, the 2014 Machinery Failure Prevention Technology Society Jack Frarey Award, and the 2016 PICMET Medal of Excellence. In 2016 he was selected as one of the 30 Visionaries in U.S. Smart Manufacturing.