Plenary Speaker 2: Prof. Ren C. Luo (National Taiwan University , Taiwan)

Title：AI Enabled Intelligent Robotics: Evolving Applications and Opportunities

Prof. Ren C.Luo, an Irving T. Ho Chair Professor in Electrical Engineering Dept. at National Taiwan University; He served as Chief Technology Officer of FFG Inc., and CTO of ASUS Corporation.

Education : Prof. Ren C. Luo, received Dipl.-Ing. 1979 and PhD in EE from the TU Berlin, Germany, 1982

國立臺灣大學
National Taiwan University

Employment: Prof. Luo served as an Irving T. Ho Chair Professor in EE Dept. at National Taiwan University; He also served as Chief Technology Officer of FFG Inc., the world 3rd largest machine tool manufacturer. He has served two-terms as President and Dean of Engineering at National Chung Cheng University., one of the major universities in Taiwan。

Prof. Luo has served as an assistant, tenured associate professor and Full Professor of Dept. of ECE at North Carolina State University, Raleigh, USA.

He was Toshiba Chair Professor in the University of Tokyo

- **Abstract**

Recently the development of AI enabled large-scale models has given robots the ability to be applied to more complex scenes. That is, the robot will rely on the large model to give embodied artificial intelligence, which means that the robot has intelligent behavior and adaptability, and it can interact with the environment and implement actions. It is estimated that the global market size of robots in the intelligent manufacturing automation and many services such as hospital, elder care, hotel, restaurant etc. will reach tens of billions of dollars per year after 2030. It is perceived that embodied intelligent robots consists of components such as sensors controllers, robotic arms, and dexterous hands to achieve perception and interaction with the environment. Enhanced by artificial intelligence, they have the capabilities of semantic understanding, human-computer interaction, and autonomous decision-making to achieve task understanding and response. The aforementioned issues, challenges and opportunities will be discussed including some research results on intelligent robotics control and manufacturing automation with video demo from our NTU intelligent robotics and automation (iCeiRA) Lab.