Prof. Chee-Kong Chui

Title: Robotic Automation in Fine Chemicals: Revolutionizing Drug Development and Medical Engineering

Abstract:
The intersection of robotics, computer vision, and deep reinforcement learning is revolutionizing the landscape of drug development and fine chemical processes, with significant implications for medical engineering. In this talk, I will explore how advanced robotic systems, empowered by state-of-the-art computer vision and deep learning algorithms, are being leveraged to automate and optimize complex chemical processes critical to drug discovery. By integrating these technologies, we can achieve unprecedented levels of precision, efficiency, and reliability in chemical synthesis and analysis, ultimately accelerating the development of new pharmaceuticals. The presentation will underscore the transformative potential of robotic automation in chemistry.

Brief Bio:
Chee-Kong Chui is an Associate Professor in the Department of Mechanical Engineering at the National University of Singapore (NUS). He received his B.Sc. (Hon) and M.Sc. (By research) degrees from NUS, and his Ph.D. degree from The University of Tokyo, Japan. Chee-Kong is a Senior Member of IEEE and a Co-Chair (2019-Present) of the Technical Committee (TC) on Cyber-Medical Systems of IEEE Systems, Man, and Cybernetics (SMC) Society. He served as Chairman (2015-2016) and Committee Member (2014 and 2017-2018) of the IEEE Engineering in Medicine & Biological Society (EMBS) Singapore Chapter. Since 2014, he has been a Board Member of the Asian Society of Computer Aided Surgery. There are aspects of mechanics, electronics, computing, and medicine in his over 20 years of R&D career in universities and research institutes. His current research focuses on intelligent cyber-physical systems and their applications in healthcare and manufacturing.