Title:
Toward B5G/6G Mobile Edge Intelligence

Abstract:
With the rise of various AIoT services, edge intelligence has emerged as a promising approach to deploying new applications in B5G/6G mobile communication systems. This lecture will provide an overview of the key features of B5G/6G mobile networks and focus on distributed AI learning driven by edge intelligence. Firstly, we will discuss the vulnerabilities associated with the edge intelligence framework and propose a feasible defense approach. Next, we will present state-of-the-art AI booster techniques, such as semi-supervised learning (SSL) and knowledge distillation, to optimize edge intelligence systems. Finally, we will examine different resource perspectives, including non-IID data, system heterogeneity, and model heterogeneity in edge intelligence environments. In conclusion, we will explore potential future research directions in edge intelligence.

Bio:
Dr. Te-Chuan Chiu is currently an assistant professor at the Department of Computer Science, National Tsing Hua University (NTHU), Taiwan. Before that, he has served as a postdoctoral research scholar at the Research Center for Information Technology Innovation (CITI), Academia Sinica, Taiwan, from 2018 to 2022. He has been a research scholar at the Department of Electrical and Computer Engineering, University of California, Davis (UCD), USA in 2022. He received the Ph.D. degree in Computer Science and Information Engineering from National Taiwan University (NTU), Taiwan. Recently, Dr. Chiu has cooperated with several industrial companies such as Delta, ITRI and NICS to realize edge AI in commercialized products. His research interests include B5G/6G communications, edge intelligence/AI, fog/edge computing, and AIoT.