Computation Offloading and Task Scheduling at Network Edge

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2:00 – 3:00 p.m. Olin 202

Reception in Olin 204
3:00 – 3:30 p.m.

Abstract

In the 5G era, wireless networks are anticipated to provide connectivity for massive mobile devices and to enable a variety of innovative applications, which generate enormous computing service demands. To support the emerging computing service demands, Mobile Edge Computing (MEC), as a cutting-edge technology in 5G, utilizes computing resources on the network edge to provide computing services for mobile devices within a radio access network. We will investigate computing resource management for MEC to satisfy diverse computing requirements in wireless networks. We will introduce three computation offloading and task scheduling schemes tailored for supporting representative use cases and network scenarios in 5G, including autonomous driving, Unmanned Aerial Vehicle (UAV) assisted networks, and highly dense vehicular networks. Machine learning algorithms are applied to facilitate low-latency and reliable computing services in complex and dynamic network environments.

Biography

Dr. Mushu Li received a Ph.D. degree from the University of Waterloo, Canada, in 2021, and a M.A.Sc. degree from Ryerson University, Toronto, Canada, in 2017. She is currently a Postdoctoral Fellow with the Department of Electrical and Computer Engineering, University of Waterloo. Dr. Li was a recipient of the NSERC Canada Graduate Scholarship (2018-2021) and Ontario Graduate Scholarship in 2015 and 2016, respectively. Her research interests include Internet of vehicles, resource management, multi-access edge computing, and reinforcement learning. She has authored/co-authored over 20 technical papers. She serves/served as a reviewer for IEEE Journals on Selected Areas in Communications (JSAC), IEEE Transactions on Communications, IEEE Transactions on Vehicular Technologies, etc.

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