Title: Machine Learning Enables Mobile Networks – Anticipatory Mobility Management for Ultra-Low Latency Mobile Networking

Abstract:

To satisfy the need of smart factory and flexible manufacturing, urgent e-healthcare, massive operation of autonomous vehicles and service robots, ultra-reliable and ultra-low latency mobile networking in the order of milliseconds emerges as a most wanted technology toward digital society that requires multi-scale control, effective cloud computing, edge computing, and on-board computing, for smooth real-time functioning to interact with environments and other agents like vehicles and robots. Based on open-loop wireless communication and virtual-cell, anticipatory mobility management to forecast proactive network association warrantees the goal of ultra-low networking latency. Various machine learning techniques fitting mobile networks are introduced and examined, successful anticipatory mobility management relying on machine learning that considers processing scenario and data integrity will be demonstrated using a real-world vehicular dataset. Machine learning indeed enables, not just enhances, future mobile networking technology.