Lecture Topic 1: Intelligent Vehicles and Transportation Systems

Abstract

Nearly every facet of our society is undergoing a shift of connecting the individuals to the community. The "Internet of Things" movement is giving great power to the individuals, by personalizing information that is time and location-aware. In the broad transportation community, building on the momentum and success of prior and current research, two primary areas have been identified as the forefront of ITS (Intelligent Transportation Systems) research, *Connected* and *Automated Vehicles (CAV)*. In this talk, I will first talk about the research challenges and opportunities in intelligent vehicle and transportation systems, and present three related research projects, accurate prediction of traffic flow using neural networks, personalized driving route prediction based on V2I communication and neural learning, and remote vehicle trajectory detection and prediction based on V2V communication data using geometric modeling and neural networks.