



## Autonomous Driving: Challenges and Opportunities

Chengzhong Xu

University of Macau

Autonomous driving is breaking the dawn of a new era, mainly due to breakthroughs of AI technologies. This talk will provide a comprehensive review of state-of-the-art technologies in environment perception, scenario understanding, mapping and location, intelligent path planning. It will also introduce a MoCAD project for Macau Connected and Autonomous Driving, which is under development at University of Macau. It aims to develop key enabling technologies in open environments with assistance of vehicle-infrastructure networking and cloud/edge computing technologies, and to construct a first-class test and evaluation platform for autonomous driving in the greater bay area. It will present recent research results on robustness deep machine learning algorithms in open environments and transfer learning approaches for model adaptivity in rare driving scenarios. Model compression and acceleration techniques for the inference and cloud/edge systems support for autonomous driving will also be discussed.