

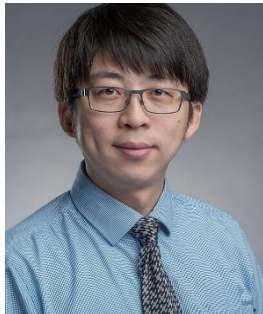


Committee on Traffic Flow Theory and Characteristics
(TRB ACP50)

CAV Webinar Series



We are proud to announce our 1st webinar in the CAV Webinar Series:



“OpenCDA: An Open Cooperative Driving Automation Research Framework”

Dr. Jiaqi Ma,
Associate Professor, UCLA

Friday, Mar 25th, 2022 --- 10:00 AM (EDT)

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ABSTRACT

This presentation introduces OpenCDA, an open co-simulation-based research/engineering framework integrated with prototype cooperative driving automation (CDA; see SAE J3216) pipelines as well as regular automated driving components (e.g., perception, localization, planning, control). It not only enables CDA evaluation in a CARLA + SUMO co-simulation environment but also provides rich research pipelines (i.e., open-source codes for basic and advanced CDA modules, such as platooning, cooperative perception). It provides a simple prototype automated driving and cooperative driving platform, all in Python, that contains perception, localization, planning, control, and V2X communication modules. OpenCDA offers benchmark testing scenarios, benchmark baseline maps, state-of-the-art benchmark algorithms, and benchmark evaluation metrics. OpenCDA supports various levels and categories of information sharing and cooperation between CAVs in simulation. Two recent research on cooperative perception (i.e., OpenCOOD) and cooperative vehicle platooning will be introduced in detail to show how OpenCDA enables cutting-edge CDA research.

BIOGRAPHY

Dr. Jiaqi Ma is an associate professor at the UCLA Samueli School of Engineering and Associate Director UCLA Institute of Transportation Studies. He has led and managed many research projects funded by U.S. DOT, NSF, state DOTs, and other federal/state/local programs covering areas of smart transportation systems, such as vehicle-highway automation, Intelligent Transportation Systems (ITS), connected vehicles, shared mobility, and large-scale smart system modeling and simulation, and artificial intelligence and advanced computing applications in transportation. He is an Associate Editor of the IEEE Open Journal of Intelligent Transportation Systems and Journal of Intelligent Transportation Systems. He is Member of the Transportation Research Board (TRB) Standing Committee on Vehicle-Highway Automation, Member of TRB Standing Committee on Artificial Intelligence and Advanced Computing Applications, Member of American Society of Civil Engineers (ASCE) Connected & Autonomous Vehicles Impacts Committee, Co-Chair of the IEEE ITS Society Technical Committee on Smart Mobility and Transportation 5.0.