

Testing and Evaluating Automated Driving Systems for Safety and Efficiency

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Automated Vehicles (AVs) are transformative technologies that could significantly reduce traffic accidents and improve the efficiency of transportation systems. The industry has progressed to a point where AVs are being deployed in limited commercial applications in select locations, including Arizona. However, whether the AV is commercially deployed or is a prototype being tested on public roads, operational safety is unknown. Arizona State University (ASU) has teamed up with the Science Foundation Arizona (SFAz) and the Institute of Automated Mobility (IAM) to develop an operational safety assessment (OSA) method to address this critical gap in public safety related to AVs. The OSA framework, aiming to be adopted as part of future AV regulation, includes a mix of simulation, closed-course, and public road scenario-based testing to assess the operational safety of the vehicle. In this talk, I will introduce my prior experience and current work related to testing and evaluating the safety and efficiency of automated driving systems.

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Dr. Junfeng Zhao is a Tenure-Track Assistant Professor at Arizona State University, where he founded Battery ELectric & Intelligent Vehicle (BELIV) lab. Dr. Zhao received his Ph.D. degree from The Ohio State University in 2015. Before joining ASU Fulton School of Engineering, Dr. Zhao worked at General Motors R&D for six years. His research interests include connected and automated vehicles (CAV), CAV simulation and system integration, motion planning and controls, electrified propulsion system controls, and intelligent transportation systems. He has authored 20+journal and conference papers and holds 15 patents. More details about Dr. Zhao's research can be found at: https://faculty.engineering.asu.edu/jzhao/





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