



Reliability of Autonomous Vehicles



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Zoom Link: <http://tinyurl.com/zhou2024>

ABSTRACT

This presentation offers an overview of Reliability Design and Analysis for Autonomous Vehicles, focusing on a framework designed to prevent failure modes in the development of autonomous vehicle reliability. The following topics will be explored in the lecture:

- Fatalities of Different Transport Modes
- Motor Vehicle Fatalities (drunk driving, distraction and speedy)
- SAE J3016 Levels of Driving Automation
- Disengagements of Autonomous Tests
- Crashes of ADAS-Equipped Vehicles
- Crashes of ADS-Equipped Vehicles Tested on Public Roads
- AI/Machine Learning in AV
- Sensor Robustness (Camera, Radar, Lidar)
- Redundancy for Reliability
- Failure Mode Avoidance



BIOGRAPHY

Dr. Jay Zhou, Chief Technology Officer (CTO) at JHZ Strategic QA, is recognized as a distinguished SAE Fellow and Mentor, as well as an ASQ Fellow. He had worked at Ford Motor Company with a wealth of global experience in quality and new product launch. Dr. Zhou held various leadership roles, including Vice President of Ford Asia Pacific, Corporate Executive Technical Leader, and member of the Technology Advisory Board. Dr. Zhou's contributions extend beyond corporate leadership, as evidenced by his publication of over 30 technical papers and the attainment of a US patent in the field of vehicle durability. He has engaged as a keynote speaker and panelist at various conferences. His accolades include being honored as the ASQ Quality Professional of the Year in 2009, receiving the ASQ Testimonial Award twice, and being the recipient of the Taguchi Robust Design award three times. Impressively, Dr. Zhou has shared his expertise globally, having trained over 15,000 individuals in more than 20 countries. His academic journey includes earning M.S. and Ph.D. degrees from the University of Michigan.