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Keynote speaker: Daniela Rus MIT, USA

Understanding Risk and Social Behavior Improves Decision Making for Autonomous Vehicles

Abstract: Deployment of autonomous vehicles on public roads promises increases in efficiency and safety, and requires evaluating risk, understanding the intent of human drivers, and adapting to different driving styles. Autonomous vehicles must also behave in safe and predictable ways without requiring explicit communication. This talk describes how to integrate risk and behavior analysis in the control look of an autonomous car. I will describe how Social Value Orientation (SVO), which captures how an agent's social preferences and cooperation affect their interactions with others by quantifying the degree of selfishness or altruism, can be integrsted in decision making and provide recent examples of developing and deploying self-driving vehicles with adaptation capabilities.

Biograpghy: Daniela Rus is the Andrew (1956) and Erna Viterbi Professor of Electrical Engineering and Computer Science, Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL) at MIT, and Deputy Dean of Research in the Schwarzman College of Computing at MIT. She is also a visiting fellow at Mitre Corporation. Rus's research interests are in robotics and artificial intelligence. The key focus of her research is to develop the science and engineering of autonomy. Rus is a Class of 2002 MacArthur Fellow, a fellow of ACM, AAAI and IEEE, and a member of the National Academy of Engineering and of the American Academy of Arts and Sciences. She is the recipient of the Engelberger Award for robotics. She earned her PhD in Computer Science from Cornell University.