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Safe Operation of Connected and Autonomous Vehicle Fleets

October 26 - 30, 2020

Scientific Overview

The goal of ensuring safe mobility has been at the forefront of government agencies and industry since the introduction of the mechanized transportation. Connected vehicle technologies were initially introduced to allow vehicle to vehicle and vehicle to infrastructure systems to enable the next generation of safe vehicles. Similarly, autonomous vehicles has often been looked at as a way to reduce accidents and fatalities, often associated with human error. This workshop is aimed at bringing together the formal methods community and the transportation community to understand how to build safe systems in the extremely complex driving environments where humans and robots will interact.

This workshop will include a poster session; a request for posters will be sent to registered participants in advance of the workshop.

Long Program Schedule

This workshop is part of the long program on "Mathematical Challenges and Opportunities for Autonomous Vehicles."

- Autonomous Vehicles Opening Day : September 14, 2020
- Mathematical Challenges and Opportunities for Autonomous Vehicles Tutorials : September 15 - 18, 2020
- Workshop I: Individual Vehicle Autonomy: Perception and Control : October 5 - 9, 2020
- **Workshop II: Safe Operation of Connected and Autonomous Vehicle Fleets : October 26 - 30, 2020**
- Workshop III: Large Scale Autonomy: Connectivity and Mobility Networks : November 16 - 20, 2020
- Workshop IV: Social Dynamics beyond Vehicle Autonomy : November 30 - December 4, 2020
- Autonomous Vehicles Culminating Retreat at Lake Arrowhead : December 13 - 18, 2020

Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

Organizers

Ruzena Bajcsy (UC Berkeley), Lillian Ratliff (UW), Richard Sowers (University of Illinois, Urbana-Champaign), Jonathan Sprinkle (UA), and Daniel Work (Vanderbilt University).

Speakers

Aaron Ames (Caltech), Ruzena Bajcsy (UC Berkeley), Luca Carlone (MIT), Sam Coogan (Georgia Tech), Katherine Driggs-Campbell (University of Illinois, Urbana-Champaign), Antonella Ferrara (University of Pavia), Andreas Malikopoulos (University of Delaware), Rahul Mangharam (University of Pennsylvania), Sayan Mitra (University of Illinois at Urbana-Champaign), Gabor Orosz (UMich), Marco Pavone (Stanford), Pierluigi Pisu (Clemson University), Lillian Ratliff (UW), Ricardo Sanfelice (UCSC), Ketan Savla (USC), Benjamin Seibold (Temple University), Richard Sowers (University of Illinois, Urbana-Champaign), Jonathan Sprinkle (UA), Janos Sztipanovits (Vanderbilt University), Ramanarayan Vasudevan (UMich), Daniel Work (Vanderbilt University), and Cathy Wu (Microsoft Research AI, MIT.