

2nd International Workshop on Socially Interactive Autonomous Mobility (SIAM)



<https://interactive-driving.github.io/>

Call for Papers

Scope

No autonomous vehicle drives in a vacuum; it must share the road space with other road users (i.e., human drivers, pedestrians, and cyclists) and negotiate with them to achieve its goals in social traffic scenes. Inspired by human's driving capability to interact with other human agents in a socially compatible way, AVs should leverage the explicit sensory and perceptual information and the implicit social inferences and anticipations in other human drivers' behavior to generate safe and socially acceptable maneuvers. Major challenges naturally arise in addressing the lack of first principles and proven mathematical models for systematic and reliable solutions to reveal the mechanisms underlying human-driving behaviors' interaction processes. SIAM workshop aims to report recent research achievements, identify relevant challenges, and review benchmarks and facilities for this research domain. We expect this workshop will become the focal point for bringing together researchers from the growing robotics, control, transportation, machine learning, and cognitive science communities to foster collaborative and creative solutions.

Themes

- ✓ Applications of AVs interacting with human;
- ✓ Algorithms of perception, decision-making, planning for human-like AVs;
- ✓ Cognitive and modeling for socially driving, e.g., Theory of Mind;
- ✓ Action-reaction cycle and Social cues modeling and validation;
- ✓ Explainable interaction and planning in interactive driving tasks;
- ✓ Evaluation and quantification of inter-human-agents interactions
- ✓ Human driving behavior/intention modeling, simulation, and analysis;
- ✓ Interactive traffic scenes analysis; Heterogeneous human-agent teams;
- ✓ Interaction pattern learning, extraction, and recognition;
- ✓ Interactive simulations and humans-in-the-loop simulations;
- ✓ Learning-based theory for social interaction among human drivers;
- ✓ Social and group intelligence in multiple human agent interaction;
- ✓ Spatiotemporal driving behaviors in interactive traffic scenes;

Important Dates

☐ **Submission: February 01st, 2024**

☐ **Notification: March 30th, 2024**

Organizers

Chengyuan Zhang (McGill University), Letian Wang (University of Toronto), Yueyang Wang (University of Leeds),
Jiachen Li (Stanford University), Yuxiao Chen (Nvidia), Gustav Markkula (University of Leeds),
Changliu Liu (Carnegie Mellon University), Lijun Sun (McGill University), Wenshuo Wang (Beijing Institute of Technology)