Contacts

- Email: graic2021@gmail.com
- Fill this form for updates: https://forms.gle/cqjBEyZKu7nSh6Ws9
- Submission: TBA

Timeline

- **January 2022**: GRAIC platform and rules released
- **January - early March 2022**: GRAIC feedback and platform updates
- **Mid March**: GRAIC final platform release
- **Mid April**: GRAIC submissions open
- **Late April**: GRAIC final races held
- **May 3-6**: CPS-IOT Week 2022, final results announced

Organizers

- Sayan Mitra
- Necmiye Ozay

GRAIC Core team

- Dawei Sun (Co-lead)
- Kristina Miller (Co-Lead)
- Yixuan Jia (Race development)
- Raj Joshi (Testing Pipeline)
- Aditya Gupta (Testing Pipeline)

Generalized RAcing Intelligence Competition (GRAIC) is a simulation-based autonomous vehicle race co-located with CPS-IOT Week 2022. GRAIC aims to bring together researchers in AI, learning, planning, and control to create a platform for education and research in autonomous vehicles, safety risks, and uncertain environments. We hope that it will also be fun.

Tl;dr In January, we will release a simulation environment, test vehicles, track information, and race objectives. As a competitor, you will use the given API and develop your racing controller. In mid April, you will submit your final racing controller code. We will run the races with your controllers and provide results, data, video feedback, and announce winners during CPSWeek.

New in GRAIC ‘22

- We lower the barrier to entry: You will have AWS image to run simulations; no need for expensive hardware. Instructions are on the installation page.
- More excitement: Multi-agent racing, new vehicles, and tracks.

Race Details At runtime, the input to the controller will come from a *perception oracle* that will provide as input a local view of obstacles, lanes, and gates on the track near the vehicle. All of these will be published in ROS topics. The tracks will have unknown static and moving obstacles. The outputs from the controller (brake, throttle, and steering) will drive the vehicle through ROS interfaces. For some vehicles will have a dynamic model for others you black-box vehicle simulator. The perception and control interfaces will not change. See more documentation at GRAIC webpage; code available from this GRAIC github repo.

Installation This year we have two options for installation: you can run GRAIC ‘22 on Amazon Web Services (AWS) or install our docker image locally. Instructions can be found on our installation page.