

# Collaborative Control for Autonomous Cars

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# Project Goal

- Autonomous car software has lots of room for improvement
- Our direction: interaction between the human and AI
- Communication from AI to human, collaboration of efforts

# Our Tools: Meet CARLA

- CARLA: open source tool for testing autonomous cars
- Helper and hurdle; useful tool that needs to be learned
- Using CARLA, then programming for CARLA

# Key Features

- Interface - backbone of programs
  - Communicates information the AI uses
- Communication through interface
  - Intent of decisions, e.g. direction taken at intersections
- Combining direction from human and AI
  - Adapt ratio of combination; keep car on the road

# Milestone 1

- Spend time with CARLA
- Examine CARLA existing code
  - See how it can be adjusted/changed to work for our needs
- Create a “hello world” type program
  - Must work in CARLA
- Program first-person-view of a car dashboard
  - Must include working speedometer, tachometer, warning lights, etc

# Milestone 2

- Test built-in self-driving software
  - Learn how it thinks and why it does what it does in certain situations
- Program our own self-driving software
  - Try and improve upon what is already created, or start from scratch

# Milestone 3

- With a working self-driving software, implement a communication system from self-driving car to human
  - Help the human explain why the AI chose to make the decision it did