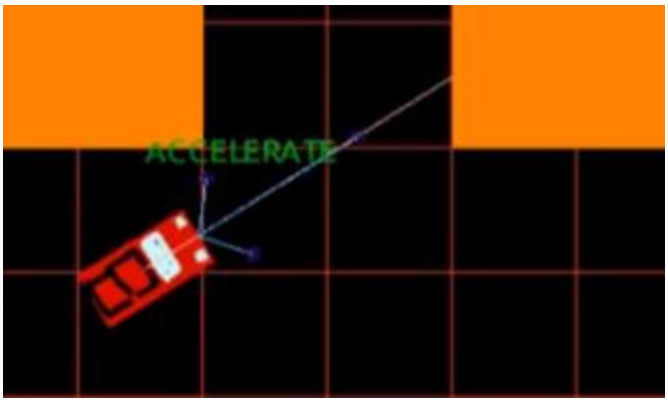
Project Abstract:

I want to make a coding competition where people program a virtual self-driving car into a race.

The competition would be structured the following way:

We would release source code for a template of a self-driving car. This car would have fields such as size (in pixels) and color. The most important fields are in the actual implementation of the code. The cars will be designed around having several raycasts extending outward from the front of the car.



These “whiskers” would give information that will execute commands such as turning left or right, accelerating forward and breaking.

Then before each race, we will release a small portion of the track along with some details on the kinds of obstacles that are unique to the track. Contestants will be provided with a testing tool in the source code, which they can use in conjunction with the small sample portion to test and create/modify their self-driving car to better navigate such an unknown track.

Each race would be compiled on one computer, where we would run everybody’s car on the track at once (starting at an initial zone and reading an end point). We will then stream the race live.

We might have several races, each getting successively harder, until we build up to a final race (which could have elements from all previous races).

Contestants would be marked on how long it takes them to arrive at the finish line, as well as other factors such as damage to car, number of collisions, and length of path. (this is to help relate it to real world self-driving car testing)