

CS 378 Spring 2024 Assignment 4 Report

Fantastic Four

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Collision Preventer Safety Node

Our code was done in “safety_node.py.” Using lidar messages, we were able to estimate the distance and time-to-collision (TTC) between our simulated car and the walls of the maze. To execute this, we retrieved sensory data from the lidar sensor. We then accessed the car’s odometry to calculate the speed at which our car was approaching a detected obstacle by keeping track of the current and future movements based on previous behavior. Once the TTC reaches a certain threshold, the car brakes by setting the speed parameter to 0.0.

Simulation Code (Safety-Node)

We only changed “safety-node.py” (under directory scripts).

<https://github.com/jess8liu/cs378-cyber-a4>