**Source Code Overview**

The folder contains all the control software and code needed to run the vehicle during the competition. The software is primarily written in C++ for the Arduino environment and is responsible for controlling the vehicle’s movement, sensor data processing, and motor control.

**1. Line Following System:**

* **Description:** Code for IR sensor to follow lines on the track.
* **Main Features:**
  + Detects white and black surfaces to guide the vehicle.

**2. Obstacle Avoidance System:**

* **Description:** Ultrasonic sensor code for detecting and avoiding obstacles.
* **Main Features:**
  + Stops the vehicle when an obstacle is detected and reroutes it.

**3. Color Detection System:**

* **Description:** Code for color sensors that detect red and green for lane decisions.
* **Main Features:**
  + Directs the vehicle based on the color input.