Self-driving RC Car

ECEN 361

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Materials

- Arduino
- Pixy Cam
- Motor Shield
- RC Car

Description

Pixy Cam

This device will be in charge of the face interface. Download the software from http://www.cmucam.org Once the software is installed, select the |signature| from the raw icon. Select |Home| and the color will be detected from the camera Mode.

Arduino

This microprocessor will carry the interface between the camera and the motor shield. Installed the library “Pixy.h” to use the functions and parameters set in the camera.

Motor Shield

This device will sent voltage to the motors of the car. To sue the shield installed the library “AF_Motor.h” There is an example in the motor library to test its functionality.

Functionality

The pixy camera is setup to detect specific colors that we selected. This input will be taken in the Arduino and use to be able to control the motors. Depending on the object color detected we will assign those values to do different type of things with the car, like going forwards, going backwards, turn right, turn left, slow down, stop or go to full speed. The pixy camera allows you to store 7 different colors, also the pixy has the option to put together a group of colors to be able to detect for example a specific pattern of colors. This allow you to open up more ideas for the implementation of your software.