

Tennis Ball Retrieving Robot

The purpose of our project is to create a robot that can autonomously track and retrieve a tennis ball and bring it back to a designated position. For our project we will be using two microcontrollers, motors, a GPS, a magnetometer and DC motors. The Raspberry pi will be attached to a raspberry pi camera. The raspberry pi was chosen because of the signal processing libraries in Simulink can be used on the raspberry pi. Using these libraries, we will be able to track the location of the ball. We will also be using an Arduino which will control all of the motors. We will have a motor to move the robot around, one that will be attached to the camera so we can pan left and right searching for a ball and a claw that will be used to pick up the ball. The magnetometer and the GPS will be used to help determine the location and direction of the robot. The drop off coordinates will be set to allow the robot to know the location to drop off the tennis ball.