**Control Award**

**Robo – Phantoms #23954**

**Autonomous Objectives**

We will preload 1 yellow and purple pixel. Our autonomous will detect which spike marker tape the team prop is on using a touch. Based on what spike marker tape the team prop is on, the robot will push the team prop out of the way and drop the purple pixel on the spike marker tape. After that, the robot will put the yellow pixel on the backdrop and park.

**Sensors**

* Distance Sensor
* We thought of using a gyro and imu to make sure the robot was positioned correctly.
* We thought of using a webcam and checking the color saturation, but we did not have the time and materials needed.
* Touch Sensor

**Key Algorithms**

Currently to stop the arm from going too high, we are using an arm encoder, but only in the autonomous program. In the driver-control period, we will use a PIDF loop, because zip – ties can get stuck on the robot and not let the arm go up. We were also going to use line following, but we didn’t use it because the spike marker tapes were too small.

**Engineering Portfolio References**

To find Our team’s information go check section 1 – 3 in the engineering notebook. To find information about our improvements go to sections 4-6 and 10-12.