Journal 0

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1 Three Sentence Project Summary

Searching and tracking people and animals in an environment such as a forest is a difficult task for humans. Computer vision (CV) and reinforcement learning (RL) are capable of detecting and controlling agents in a wide variety of environments respectively. My project uses a drone equipped with an on-board processor and camera and will autonomously navigate an environment using RL and find a target using CV

2 Work Done Over The Summer

I mainly did background research to learn the technologies that I will use in this project.

3 Software/Hardware to Purchase

Besides everything already on the workstation, I will only need to use Gazebo which is a free robotics simulator. The drone itself will be made according to this guide. It looks to cost around 400 dollars (overestimate), but many of the parts are probably available in the robo lab. The main cost comes from the flight controller pi shield (200 dollars) which allows the raspberry pi to control the drone; this in turn lets a python program which can run deep learning algorithms to control the drone.