Brandon Hung

https://github.com/BrandonHung343 | https://brandonh.dev | Contact Information

Education

Carnegie Mellon University — Aug 2021-May 2022
Master of Science in Electrical and Computer Engineering. GPA: 3.91/4.00

Carnegie Mellon University — Aug 2017-May 2021
Bachelor of Science in Electrical and Computer Engineering, Minor in Robotics, Honors. GPA: 3.56/4.00

Relevant coursework: Optimal control, robot dynamics, mobile robot algorithms, computer vision, machine learning, statistical learning, localization and mapping, biomechanics

Work

CMU Robotic Exploration Lab - Research Assistant — May 2021-May 2022

- Modelled hybrid dynamics for legged robots in simulation; videos here and here
- Investigated and implemented DDP optimal control methods to simulate trajectories

CMU Biorobotics Lab - Research Assistant — Sept 2017-Aug 2018

- Implemented multi-agent path planning algorithm for swarm robots

Projects

Homogeneous Swarms Shape Formation Simulator — Jan 2020

- Created a simulator for robotic swarm shape formation in Python; code here, video here
- Implemented Hanlin Wang and Michael Rubenstein's algorithm from Northwestern University

Automated Forklift Software Stack — Dec 2019

- Implemented localization, planning, and control on robotic model forklifts to detect/retrieve pallets
- Tied for first place at final competition for moving pallets in model warehouse

Autonomous Terrarium for Indoor Farming — Dec 2019

- Created AI scheduler to grow radishes in automated greenhouse model
- Successfully grew an edible crop of microgreens over the course of two weeks

Human-Robot Interactive Arm — Dec 2017

- Incorporated computer vision and speech recognition to control robot arm; link found here

Activities

Red Robot Hackathon - Organizer — Oct 2018-April 2019

- Created event and website for the Red Robot Hackathon; link found here
- Restructured event increased event membership from 8 to 80

Skills

Computer: Python, MATLAB, Julia, C, JavaScript, ROS, Linux, Simulink, OpenCV, Scipy, LaTex
Electrical: SystemVerilog, Microcontrollers, Raspberry Pi, FPGA, soldering, basic circuit design
Mechanical and Design: Solidworks, Fusion 360, machining, 3D printing, rapid prototyping