

# Brandon Hung

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<https://github.com/BrandonHung343> | <https://brandonh.dev>

## EDUCATION

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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

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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

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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

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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

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*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