Fangzhou Yu

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First Year Robotics MS student at Oregon State University looking for summer 2022 internships

EDUCATION

Oregon State University
September 2021 – June 2023

Master of Science,
Robotics

Stony Brook University
August 2016 – May 2020

Bachelor of Engineering,
Mechanical Engineering

SKILLS

- SolidWorks
- Autodesk Inventor
- Fusion 360
- Finite Element Analysis
- Python
- C++
- Linux
- Matlab
- Mechanical Drafting
- Manual Machining
- Rapid Prototyping
- Altium Designer
- SMD PCB fabrication
- Mandarin Chinese

WORK EXPERIENCE

Dynamic Robotics Laboratory

Corvallis, Oregon | September 2021 – Present
Research Student

- Researching how to utilize optimized trajectories to shape reward functions for robust reinforcement learning policies to enable one-off locomotion behaviors for the legged bipedal robot Cassie, advised by Dr. Alan Fern and Dr. Jonathan Hurst.

UPenn GRASP Modular Robotics Laboratory

Philadelphia, Pennsylvania | May 2019 - Aug 2019
Research Experience Undergrad

- Modeled system dynamics of an underactuated micro aerial vehicle under the DARPA SHRIMP project.
- Integrated system model featuring finite wing theory into a Python physics simulator to estimate motor requirements and flight times.
- Created a 3D graphics visualizer in python for physics simulation results.
- Developed a vehicle flight demonstrator model to test real world stability and test takeoff performance requirements.

Guardian Agriculture

Boston, Massachusetts | May 2018 - Aug 2018
Mechanical Engineering Intern

- Used SolidWorks to design an electric motorcycle brushless motor dyno stand for craft propeller thrust validation.
- Sourced sensors and wrote firmware to enable real-time propeller dyno RPM, thrust, and current measurements as well as datalogging capabilities. Data analysis done in MATLAB.
- Designed, prototyped, and machined drone power transmission components.
- Used MATLAB to tune torque control loops for electric vehicle brushless motor controllers prior to deployment into drone powertrain assembly.

Projects

- Created an animated, live weather display for a LED matrix panel in C++ on a raspberry pi nano
- Created a 60V 200A peak, current sensing brushless motor controller in Altium. SMD reflow soldered board components and wrote C firmware for a STM 32bit microcontroller
- Designed, fabricated, and authored firmware to control an agricultural soil sampling robot prototype for senior capstone class.