

Oliver Zhang

Interdisciplinary engineer skilled in design and problem solving. Seeking opportunities where I can use my skills to improve the world.

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EDUCATION:

Carnegie Mellon University Pittsburgh PA

Graduation May 2019

Bachelor of Science in Mechanical Engineering and Robotics

QPA: 3.63/4.0

Engineering Courses: Statics, Thermodynamics, Fluid Mechanics, Stress Analysis

Notable Projects:

- Programmed in MATLAB an autonomous robot with two wheels and caster, encoders and LIDAR. Implemented state estimation, feedback/feedforward control, visual goal acquisition, trajectory planning
- Designed and built crane using aluminum strips. Successfully lifted 1 lb weight more than 2 inches.
- Developed OCR program that can execute printed/written Python, demonstrated project in class showcase.
- Designed and built mousetrap car to perform S-shaped course, 2nd fastest in class of 100+ students.

WORK EXPERIENCE:

Autel Robotics Pittsburgh, PA

Summer 2017

Project Engineer Intern

- Worked in a group of three to design tracking and gesture recognition systems on a quadcopter.
- Developed and tested program using MATLAB and used C/C++ cross compilation for embedded execution.

Supplemental Instruction (SI) Pittsburgh, PA

Spring 2017 – Present

SI Leader

- Designed and lead collaborative learning sessions for students in Thermodynamics I.

PERSONAL PROJECTS

Quadcopter Project

2016 – Present

Team leader

- Develop indoor autonomous quadcopter to participate in International Aerial Robotics Competition
- Utilize ROS, cameras, LIDAR, and SLAM to implement autonomous navigation and target detection
- Apply CAD in Solidworks to laser cut, print, machine hardware such as landing gears, sensor mounts.

Amphibious Rescue Craft Project

Summer 2016 – Spring 2017

Team member

- Designed prototype amphibious vehicle for remote beach rescue. Funded by SURG and SHRG programs.
- Implemented control using Arduino, XBee, Python. Manufactured parts using Solidworks, 3D Printing, CNC

Multipurpose Mobile Manipulator (MMM) Project

Summer 2016 – Spring 2017

Team Leader

- Guide and teach teams of students to create parody films involving the MMM as the lead actor.
- Designed an animator interface and android controller for easy control of the MMM.
- Programmed behavior in Unity3D, Arduino. Engineered attachments, mounts. Edited footage with Adobe CS

Space Game Development Project

Spring 2016 – Spring 2017

Lead Developer

- Develop 3D voxel spaceship game with procedurally generated planets and sandbox ship building
- Implement controls, game logic, animations in Unity 3D. Design models in Blender.

ACTIVITIES:

CMU Robotics Club Officers Board Pittsburgh, PA

Spring 2017 – Present

Training Officer

- Designed and lead sessions to train members on engineering principles and resources at the Robotics Club.

Habitat For Humanity trips to Philippines and Cambodia

Spring 2013, 2014

Volunteer and Officer

- Volunteered to construct shelter for people without homes, officer of club responsible for trip logistics.

SKILLS: C#, Python, Java, C/C++, MATLAB, Unity3D, ROS, Solidworks, Mastercam, Adobe CS, Fluent Mandarin.

INTERESTS: Watching films, video gaming, reading, cooking, practicing karate.