ISAAC S. PERPER

Dillon Beach, CA 94929
415-308-2791 (cell)

isaacperper.com
isaac.perper@gmail.com
isaac-perper-01

EDUCATION

Massachusetts Institute of Technology — Cambridge, MA

B.Sc. Mechanical Engineering - 5.0/5.0 GPA - Pi Tau Sigma | Tau Beta Pi Eligible — *June 2020*

Relevant Coursework: Automatic Controls, Signals and Sys., Fund. of Programming, Manufacturing and Design I, Fund. of Statistics, Prob. and Random Variables, Lin. Algebra, Intro. to Machine Learning, Intro. to Algorithms

WORK EXPERIENCE

Ford Research and Innovation Center — Palo Alto, CA

Intern — *Summer 2019*

- Worked on a self-contained project integrates vehicle control and vision system with simulation tools to test new research features in a simulated environment instead of relying on in-vehicle test.
- Engaged with multiple engineers responsible for specific components of the controls and simulation
- Won first place out of six teams at the office-wide summer hackathon

MIT CSAIL - PavLab — Cambridge, MA

Student Researcher — *Summer 2018, Spring 2019*

- Researching machine learning techniques for object detection using thermal imagery, including image segmentation and boundary detection for use in adverse lighting conditions
- Created battery management application for front-seat computer and sensors on REX unmanned surface vehicle
- Improved camera hardware with better mounting, camera, and lens selection
- Developed geo-location-based object identification to detect stoplights on preplanned autonomous routes

Augmenta Bioworks — Mountain View, CA

Intern — *Summer 2017*

- Developed a prototype automation system independently that will enable analysis of lab processes
- Built the system from the ground up, working on the design, fabrication, and controls side of the device
- Created Python-based control script to interface with several devices over serial communication protocols
- Used computer vision library to automate procedure commands

MIT Dept. of Nuclear Science and Engineering – Green Lab — Cambridge, MA

Student Researcher — *Spring 2017*

- Experimentally researched a quantifiable approach to improving the critical heat flux of various materials used in nuclear energy production through surface engineering
- Designed, machined, and fabricated test boiling chamber to use in tests

Vecna Robotics — Cambridge, MA

Intern — *January 2019*

- Updated primarily C++ software stack to run on latest Linux and ROS systems
- Merging proprietary changes with latest community updates and fixing unsupported software to work with newest libraries and other dependencies

LEADERSHIP

Phi Sigma Kappa Fraternity — Boston, MA

President — *Spring 2019*

- Oversee operations of each sub-department and housing, including serving as semester's risk manager
- Conduct weekly house meetings and review day-to-day issues such fulfillment of weekly jobs and fines

MIT Rocketry Club — Cambridge, MA

Treasurer 2017-18 — *2016- 2018*

- Designed and built test stand for solid rocket motors as a part of Ground Support Systems
- Oversaw spending and fundraising for a $40K budget, with the goal of reaching a record 80K flight

Eagle Scout — Tiburon, CA

Scout — *August 2009-June 2016*

- Collaborated with the local church to build and implement a user-friendly recycling and compost system
- Lead the troop on outings as Assistant Senior Patrol Leader and Patrol Leader

SKILLS

Software: SolidWorks, C++, Python, MATLAB, AutoCAD, Linux, Windows, CMake, Arduino, OpenCV
Building/Design: Prototyping, Laser Cutting, 3D-Printing, Machining and Fabrication, Waterjet

EXTRACURRICULAR ACTIVITIES

MIT Varsity Soccer Team, MIT Sandbox, Redwood Rocketry Club (9th Place Nationally), MATE ROV