Colin Acton

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EDUCATION

University of California, Berkeley **Grad. May 2020**
Bachelor of Science in Mechanical Engineering *Berkeley, CA*
Minor in Electrical Engineering & Computer Science **GPA: 3.62/4.0**

- Pi Tau Sigma Mechanical Engineering Honors Society (*Activities Chair, Fall 2019*)
- Certificate in Entrepreneurship & Technology from European Innovation Academy (*Turin, IT, 2017*)

SKILLS

- **Mechanical Design:** PTC Creo, SolidWorks, AutoCAD, ANSYS, GD&T
- **Electrical Design:** Arduino, PSoC, SPI, UART, I2C, USB, MIDI, Circuit Theory, Oscilloscope, DMM, PSU
- **Languages and Methods:** C, C++, Python, Java, MATLAB, LabVIEW, Forward Euler, Genetic Algorithms, FEM
- **Manufacturing:** CNC Machining, Mill, Lathe, 3D Printing, Laser Cutting, Injection Molding, Lean Manufacturing

PROJECTS & WORK EXPERIENCE

Autonomous Sailboat **Fall 2019**
Sensor System Designer and Project Lead

- Oversaw the system architecture design of an Arduino controlled, wing-sail boat based on power and mechanical load requirements.
- Created a hybrid cup and vane anemometer using a hall effect sensor, absolute encoder, and 3D printed parts designed in PTC Creo.
- Wrote firmware and mapped hardware to read sensor data using SPI protocol and interrupts to control angle of attack and camber.

Basketball Robot **Spring 2019**
Embedded System and Firmware Lead

- Wrote bare metal firmware in C for the MCU of a finite-state machine that autonomously shot basketballs into a full-size hoop.
- Created map files to select and configure hardware components of a PSoC 5LP using register schematics and peripheral protocols.
- Wrote and documented code to collect and interpret UART LiDAR data packets, perform hoop detection, and calculate trajectory.
- Used multitasking to read sensor data and control motors while receiving state transition commands from a LabVIEW GUI via USB.

Mettler-Toledo Rainin **June – November 2018**
Automation Mechanical Engineering Intern

- Built front-end UX of cloud-based CMMS system for submitting, tracking, and resolving manufacturing equipment work orders.
- Identified critical parts of automated manufacturing equipment levels 1 through 3 using BOM's to set up automatic order requests.
- Created diagnostic tools that collected data from service records to autonomously create daily reports for managers and engineers.
- Trained automation team on how to optimally use the facilities management system with each of their distinct access features.
- Retained after summer to ensure continued success of my system and train other departments to adapt it to their needs.

3D Model & Animation of Turntable **Fall 2018**
Animation and Project Lead

- Led a team of peers in measuring, modeling, and texturing all 140+ parts of a music hall usb-1 turntable in PTC Creo.
- Animated parts to creatively showcase assembly and functionality of turntable and subsystems in 3ds Max.

VOLUNTEERING & EXTRACURRICULAR ACTIVITIES

Cascadia Rail **Summer 2020 – Present**
Video and Animation Production Volunteer

- Designing realistic 3D environment of Cascadia Region using Blender GIS to visualize high-speed rail corridor and stops.
- Creating videos to showcase job creation, opportunity costs, travel time, and investment statistics to decision makers and the public.
- Researching and reporting on historic infrastructure improvement programs in the United States.

RoboGames **Spring 2017 & Spring 2018**
Team Member

- Created a new set of titanium armor and pneumatic flipper for my team's heavyweight robot, HexaDecimator.
- Machined new parts for the robot and troubleshooted bugs and issues encountered while assembling and testing.