

EDUCATION

CALIFORNIA POLYTECHNIC STATE UNIVERSITY Spring 2019
Master of Science and Bachelor of Science Degrees in Mechanical Engineering GPA: 3.76
Highlighted Coursework: Applied FEA, Continuum Mechanics, Viscous Flow, Compressible Flow, System Dynamics,
Mechanical Control System Design, Mechatronics, Computational Intelligence, Numerical Methods in Applied Math.

TECHNICAL EXPERIENCE

Thesis: Boundary Layer Data System (BLDS-M-Rake), Cal Poly, San Luis Obispo **June, 2018 – Present**
Redesigning and building Rake Module of the BLDS. Significantly reducing size and implementing better packaging, while upgrading electronics and code.

- Designed PCB containing: Simblee Chip, 11 sensors, SD reader, USB, Battery and DC-DC converter.
- Creating modular software in C++ to take pressure measurements and record them to an SD card.
- Designing housing for board and rake plumbing.
- Iterating on 10 pitot-tube rake design with plumbing to pressure sensors and adjustability.

Senior Project: Automated Hydrophone, Cal Poly, San Luis Obispo **September, 2017 – June, 2018**
Designed, built, and tested an automated medical ultrasound calibration device. Completed with a budget of \$14,291, compared to benchmarked commercially available product costing \$100,000.

- Utilized Labview to move hydrophone in 3 axes, measure pressure at 10MHz, process and represent data.
- Designed a PCB for break out to peripheral components.
- Tested the effect of directivity on the hydrophone and wrote code to test linear actuators and hydrophone specifications.
- Designed frame and tank structures.
- Modeled and maintained entire design in SolidWorks.

Internship: Instrumentation Design, JT3, Edwards Air Force Base **June – September, 2017**

- Aided in the design of a testing apparatus for aerial refueling booms.
 - Performed thermal analysis on the main electrical box both analytically and numerically.
 - Designed pulleys on the first module of the apparatus and then verified with FEA.
 - Developed layout and specified hardware for circuit breaker box to be used for a 200kW generator.
- Redesigned telemetry tray to accommodate a new encoder in F-22 jets.
- Designed a table-top fixture to be used by R&D lab for DAQ stack development.

Internship: Marquess & Associates Inc., Medford, Oregon **July – September, 2015 & 2016**

- Utilized AutoCAD to create and edit HVAC systems, plumbing plans, fire protection systems, and electrical plans.
- Created and rendered photo realistic Revit model to run lighting calculations for minimum foot-candle requirement.
- Aided in the development of a fire protection plan for organic rubbing alcohol distillery.

SKILLS

Languages/Programs: Matlab, LabVIEW, C++, Python, Assembly, SolidWorks, Eagle, AutoCAD.

Skills: Arduino, Soldering, Milling, Turning, CNC&CAM, EDM, Differential Scanning Calorimeter.

AWARDS

Tau Beta Pi, Pi Tau Sigma, Dean's List every quarter, Cal Poly Outreach Scholarship, Rensselaer Medal.

PART TIME JOBS AND CLUBS

AV Technician II | Jan. 2016-present

Associated Students Inc.
12-20 hours per week

Driver Controls Member | Sep. 2015-Jun. 2016

Formula SAE
5-7 hours per week

Theater Technician | May 2016-present

Alex and Faye Spanos Theater
5-10 hours per week

Member (Manufacturing) | Nov. 2016-Oct 2017

CubeSat
2-12 hours per week