Manny Lazalde

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Master of Science in Mechanical Engineering — May 2021
GEM Full Fellowship

University of California, Berkeley — Berkeley, CA
Bachelor of Science in Mechanical Engineering — December 2019
Minor in Electrical Engineering and Computer Science
GPA: 3.56/4.00

SKILLS

Software: Python, Java, JavaScript, MATLAB/Simulink, SolidWorks, LabVIEW, Arduino, ROS, Linux,
Hardware: Oscilloscope/Signal Generator/DAQ experience, 3D Printing, Laser cutting, UC Berkeley Machine Shop Trained

WORK EXPERIENCE

Lam Research — Fremont, CA - Remote
Hardware Engineering Intern — April 2020 - August 2020

- Validated hardware design changes in semiconductor deposition equipment using Python and statistical testing, leading to customer hardware changes allowing for more efficient manufacturing processes
- Implemented flexible feature extraction pipeline and machine learning models to classify pneumatic valve events and predict valve response times from sensors, proving feasibility for adoption on new platform

General Motors — Milford, MI
Engineering Intern - Diesel Engine Calibration — June 2019 - August 2019

- Led feasibility emission testing and vehicle garage work in Michigan for next generation diesel engine
- Performed CARB regulated J1699 and J1979 testing, fixing software issues to avoid vehicle recalls
- Created engine diagnostic form verification tool with Python, moving monthly 30-hour process to 15 minutes

Medtronic Diabetes — Northridge, CA
R&D Sensor Development Intern — May 2018 - August 2018

- Collaborated with R&D engineers to develop next generation Continuous Glucose Monitors
- Led $100k R&D sensor feasibility study with outside company involving molding and joining of plastics
- Automated clinical data validation with Python, ensuring clinical trial success with rapid patient feedback

Ethicon | Johnson & Johnson — Cincinnati, OH
R&D Robotics Co-op – Robotic Surgery Group — January 2018 - May 2018

- Established new system for data visualization with Python and Tableau leading to 10x faster data processing
- Designed test fixtures with SolidWorks and executed statistical tests to validate updated measurement systems

Meggitt Control Systems — Simi Valley, CA
Manufacturing Engineering Intern — June 2017 - August 2017

- Collaborated with manufacturing group to increase efficiency of aerospace fire suppression system production
- Transitioned product label marking from dot peen to laser marking, reducing manufacturing time and product returns

ACADEMIC RESEARCH AND PROJECTS

Gu Research Group — Berkeley, CA
Undergraduate Researcher — August 2018 - December 2019

- Modeled shark skin denticles in SolidWorks and optimized denticle geometry with Ansys Fluent CFD simulations to reduce drag on future biomimetic-based systems; J Ott, M Lazalde, GX Gu, Bioinspiration and Biomimetics (2019)

University of California, Berkeley — Berkeley, CA
Robotics Kinematics & Dynamics Final Project — August 2019 - December 2019

- Developed controller and computer vision algorithm to juggle ball on human sized bipedal robot in team of four

Senior Capstone Design Project — January 2019 – May 2019

- Designed and prototyped mechatronic robot to inflate and tie balloon in group of four, placed 3rd overall in showcase
- Responsible for creating pulley system, circuit design and electronics, and microcontroller code for driving system

EXTRACURRICULAR ACTIVITIES

UC Berkeley Newman Hall - *Outreach Chair and Retreat Leader* — August 2017 - December 2019
Pi Tau Sigma - *IT Committee Chair and Industrial Relations Chair* — December 2016 - May 2018