

Rachelle Ann Rosano

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EDUCATION

University of California, Berkeley

B.S. Mechanical Engineering

August 2014 – June 2018

WORK AND ENGINEERING EXPERIENCE

AWAIR

Returns Specialist

San Francisco, California

January 2018 - Present

- Perform quality assurance process on returned devices by verifying, recording information, assembling products and packages, and executing elaborate testing procedures to determine if device can be refurbished vs. defective

UC Berkeley FLOW Lab

Ocean Engineering Undergraduate Researcher

Berkeley, California

May 2017 - Present

- Analyzed and processed x-ray cross-sectional images from fluid flow through an aluminum 6061 pipe to investigate the fundamental mechanism behind superhydrophobic coatings to further the FLOW Lab's drag reduction research
- Converted previously unreadable data into usable data by removing noise in the Fourier domain for use in quantifying the ratio of air pockets created during fluid flow
- Designed an electrical enclosure to hold heat-sensitive components as robustly as possible based on size limitations and heat transfer calculations for the purpose of handling the controls of the experiment

Space Sciences Laboratory

Mechanical Engineering Intern

Berkeley, California

February 2017 – May 2017

- Led the first steps of the product cycle of an electromechanical enclosure utilized for ground support equipment purposes through material selection and design
- Modeled parts with specific size requirements inside the enclosure to ensure the feasibility of size limitations
- Utilized design for manufacturing/assembly principles [such as uniform fastener sizes for subassemblies] to minimize initial assembly time and cost with considerations for debugging and replacing internal components
- Maintained clean room facilities and equipment, designing/fabricating support equipment when necessary

University of California Pavement Research Center (UCPRC)

Mechanical Engineering Lab Assistant

Richmond, California

September 2015 – September 2016

- Quantified strength/material properties and defect occurrences in pavement mixtures for use in CA Highways
- Chose which samples to run in order to converge on a high strength and reliable pavement mixture
- Designed and fabricated necessary support equipment including a wastewater filter for chemical segregation
- Utilized uniaxial load testing machines and machine shop tools

PROJECTS

Automated Camera Slider

Fall 2017

- Implemented a modified Peaucellier-Lipkin mechanism to provide maximum linear range and compact storage
- Modeled dog-bone-shaped aluminum linkages [minimizing weight] and motor mounted with a tripod and camera for motion analysis to verify the necessary varying input angular velocity to output a constant linear motion

Exoskeleton Glove for Increased Grip Strength

Spring 2017

- Converged on a locking hinge design to balance simplicity, load capacity increase, comfort, and cost
- Ended with a prototype that validated kinematics, load capacity increase, and user experience specs

LEADERSHIP AND EXTRACURRICULARS

Green Labs at UC Berkeley

Project Leader and Research Associate, with a focus on waste reduction/ new sustainable technology – June 2017 - Present

Theta Tau Professional Engineering Fraternity – Epsilon Chapter (Spring 2016 – Present)

Pledge Instructor – Spr 2018, Emerging Events Chair – Sum/Fall 2017, Brotherhood Chair - Spr 2017, Historian - Sum/Fall 2016

Pilipino Association of Scientists, Architects, and Engineers (Fall 2014 – Spring 2017)

Social Chair - Summer 2015 – Spring 2016 (1 yr)

Intramural Volleyball (Fall 2014 – Present)