

EDUCATION

Oregon State University

Expected: December 2021

- Master of Science in Mechanical Engineering GPA: 3.85 / 4.00
- Related Coursework: Engineering Applications of CFD, Applied Heat Transfer, Advanced Fluid Flow

Oregon State University

June 2020

- Bachelor of Science in Mechanical Engineering GPA: 3.83 / 4.00
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INDUSTRY EXPERIENCE

Mechanical Engineering Intern

June 2020 – September 2020

Carrier

Charlotte, NC

- Managed parts ordering process for the first engineering prototype of a new centrifugal chiller
- Interfaced with 6+ vendors to order piping assemblies for chiller prototype
- Ordered, wired, and tested two valves for flow curve characterization

Facilities Engineering Intern

June 2019 – September 2019

Qorvo

Hillsboro, OR

- Utilized AutoCAD to create 7 drawing packages for wafer fab tool installation
 - Coordinated efforts between 4 different teams and 4 contractors to complete tool installations
 - Assessed, drafted, and updated over 15 drawings of mechanical plumbing throughout building
 - Installed 40+ solvent waste line tags to comply with Department of Environmental Quality regulations
 - Determined the cost of producing compressed dry air at Qorvo's Hillsboro site
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RESEARCH EXPERIENCE

Graduate Research Assistant

June 2020 – Present

Thermal Energy Systems and Transport (TEST) Lab, Oregon State University

Corvallis, OR

- Modeled a distributed-temperature water-gas shift plate microreactor and heat exchanger unit
- Designed and manufactured graphite gaskets using laser cutter and waterjet tools
- Performed surface analysis of self-synthesized platinum catalyst using SEM/EDS
- Simulated reaction and heat transfer behavior in COMSOL

Thermal Energy Research Assistant

June 2017 – September 2017

Thermal Energy Systems and Transport (TEST) Lab, Oregon State University

Corvallis, OR

- Designed, fabricated, and tested a microchannel prototype for use in large-scale solar thermal energy systems
- Investigated flow behavior in channels of prototype using a Phantom high-speed camera

Software Development Research Assistant

June 2018 – September 2018

Department of Wood Science and Engineering, Oregon State University

Corvallis, OR

- Validated MATLAB script written to automatically detect knots on eucalyptus boards
 - Improved knot classification accuracy from 50% to 77% by adjusting image processing parameters
 - Developed novel approach in MATLAB to determine false positive and false negative knot detection rates
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EXTRACURRICULARS

President, Oregon State ASHRAE Student Chapter

June 2019 – June 2020

American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

Corvallis, OR

- Organized and hosted 5+ educational events with industry partners to promote HVAC, building design, and engineering consulting to students at Oregon State University
- Directed and delegated tasks to three club officers
- Networked with industry professionals at the 2020 ASHRAE Winter Conference

Team Member, Beaver Racing Baja SAE

April 2019 – Present

Beaver Racing, Oregon State University

Corvallis, OR

- Assisted in the design and manufacture of the 2019 and 2020 Baja SAE car with a multidisciplinary team of 20
- Created a novel control system in Simulink for the electronic CVT prototype on the 2020 Baja SAE car
- Implemented PID control in Arduino microcontroller components
- Placed 1st at Baja SAE Tennessee Tech and 3rd at Baja SAE California in 2019

PROJECT EXPERIENCE

Block Heater Fouling Project

January 2021 – March 2021

Measurements in Fluid Mechanics and Heat Transfer, Oregon State University

Corvallis, OR

- Designed and created a measurement system to investigate the effect of salt concentration in saline water on the fouling of a block heater
- Utilized LabView to collect data from RTDs and thermocouples
- Incorporated a pressure transducer, a power meter, and a saline water pump in the measurement system
- Analyzed temperature data to calculate the fouling factor after 1 hour of boiling

Heat Sink Design Project

September 2019 – December 2019

Heat Transfer, Oregon State University

Corvallis, OR

- Modelled and simulated a novel heat sink design to comply with specific design requirements and parameters
- Utilized fundamental heat transfer concepts and correlations to assess the performance of the heat sink
- Validated hand calculations by simulating fluid flow and heat transfer behavior in SolidWorks Flow Simulation and SolidWorks Thermal Simulation

RC Car Design Project

January 2019 – March 2019

Introduction to Design, Oregon State University

Corvallis, OR

- Collaborated with three team members to design and produce an obstacle-traversing RC car with originality, regulatory, and aesthetic considerations
- Generated and evaluated conceptual RC car design solutions using functional analysis and prototype testing
- Modeled, assembled, and created engineering drawings for 20+ RC car parts in SolidWorks
- Fabricated the RC car to compete in obstacle course competition and meet functional requirements

Fabrication Captain, FIRST Robotics Competition Team 955

December 2014 – April 2016

FRC Team 955, Crescent Valley High School

Corvallis, OR

- Led a group of 15+ students as FRC Team 955's Fabrication Captain in the manufacturing, construction, and assembly of 2 FIRST Robotics Competition robots
- Won the Pacific Northwest District Championship in 2015 and attended the World Championships
- Won the PNW District – Philomath Event in 2015 and won the Industrial Design Award in 2015

Shop Improvement and Product Development Project

September 2014 – June 2017

Crescent Valley High School

Corvallis, OR

- Organized 3D printer filament by 3D printing clamps and organizers on Zortrax M200 printers
 - Improved shop safety by vinyl cutting shop safety warnings and labels on a Roland GX-24 engraving machine
 - Utilized Epilog laser engraver to create 50+ original wood and acrylic products for sale in the school store
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OTHER EXPERIENCE

Graduate Representative, ASOSU House of Representatives

September 2020 — Present

Associated Students of Oregon State University (ASOSU)

- Participated in weekly legislative meetings and discussed legislation designed to improve student life at OSU
- Crafted a resolution in support of Open Education Resources across the entire university
- Voted to approve student fees for fiscal year 2021-2022

Thermal-Fluid Science Undergraduate Learning Assistant

November 2019 – June 2020

College of Engineering, Oregon State University

Corvallis, OR

- Tutored 30+ students in thermal-fluid science classes such as thermodynamics, fluid mechanics, and heat transfer
- Guided students with varying levels of comprehension through TFS concepts and problems
- Provided 10 hours of available help per week in a casual environment

Career Development Assistant

March 2018 – November 2019

College of Engineering, Oregon State University

Corvallis, OR

- Provided personalized, constructive feedback to over 50 students to refine and improve each individual's resume and cover letter
- Created and organized career tools such as virtual interview practices and Fundamentals of Engineering Exam preparatory resources
- Increased student involvement by over 20% in career development activities
- Mentored and prepared two new employees for success in career development assistant role

Crew Member

June 2017 – September 2017

Burgerville

Corvallis, OR

- Provided high-quality customer service to 100+ individuals per day
- Communicated effectively with managers and coworkers on a daily basis
- Ensured compliance of food safety standards and maintained cleanliness of restaurant

Technical Writer

December 2015 – September 2016

Linn Benton Community College

Albany, OR

- Created and implemented a free Open Education Resource textbook on machine shop techniques and safety
- Led and mentored two younger students in the writing and editing of the textbook
- Reduced the cost of textbooks by \$100 per student

Trail Maintenance Technician

July 2015 – September 2015

Northwest Youth Corps

Corvallis, OR

- Collaborated with 10 crew members to maintain and create hiking trails in Corvallis, Salem, and Alsea natural areas
- Improved the conditions of existing trails by removing boulders and debris from hiking areas
- Received the Outstanding Crew Member award for exceptional teamwork skills and positive morale

SKILLS

Software EES, SolidWorks, MATLAB, Simulink, PTC Creo, AutoCAD, COMSOL, Adobe Illustrator, LabVIEW, R

Technical NI-DAQ, Arduino, SEM/EDS, laser cutter, waterjet, CNC mill

Certifications Lean Six Sigma White Belt

Organizations SAE Student Member, ASHRAE Student Member, AIChE Student Member

VOLUNTEER EXPERIENCE

Stone Soup Corvallis

January 2017 – September 2017

- Cooked and served meals to over 50 individuals a day once per week
- Facilitated the setup and breakdown of dining tables and chairs for each meal
- Sanitized surfaces, ensured cleanliness, and maintained an orderly facility

Corvallis Public Library Volunteer

September 2015 – January 2017

- Sorted, shelved, and organized 100+ books for 2 hours each week
- Collaborated with other volunteers in cleaning and maintaining the children's play area

Linn Benton Food Share

December 2015 – December 2016

- Sorted and organized 100+ articles of food for 2 hours each week
- Cleaned and swept facility to ensure compliance with health codes

SCHOLARSHIPS, ACHIEVEMENTS, AND AWARDS

Winner, ASHRAE Video Contest

February 2020

Oregon ASHRAE Chapter

- Winner of the 2020 Oregon ASHRAE Chapter's Video Contest
- Created promotional video demonstrating ASHRAE's impact on the built environment
- Attended the 2020 ASHRAE Winter Conference and 2020 AHR Exposition in Orlando, FL

Finley Academic Excellence Scholarship

September 2017 – Present

Oregon State University

- Awarded for maintaining full-time student status
- \$6,000 per year

Pacific Honors Ensemble Program Scholarship

September 2015

Western International Band Clinic

- Awarded to 3 exceptional attendees of the Western International Band Clinic to travel and perform music with other high schoolers in Queensland, Australia
- Estimated scholarship of \$5,000

Member, All-State Band

January 2013 – January 2017

Oregon Music Education Association (OMEA)

- Auditioned and performed in the All-State Band on the baritone saxophone for four years

Member, All-Northwest Band

February 2015

National Association for Music Education, Northwest Division (NAfME)

- Auditioned and performed in the All-Northwest Band on the baritone saxophone for one year

Most Valuable Player

March 2017

Crescent Valley Girls Lacrosse

- Awarded to the most valuable player on the Crescent Valley varsity girls lacrosse team
- Scored 31 goals during the 2017 season, most in the team's history