

Chandler Heintz

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ABOUT ME

I am currently a senior at the University of Washington studying mechanical engineering with a Spanish minor. I graduate in Spring 2022, and will pursue a MSME beginning fall 2022.

SKILLS & ABILITIES

CAD: SOLIDWORKS, Fusion 360, Onshape, Siemens NX, Creo Parametric, HyperMesh, FEA

Manufacturing: Mill and lathe operation, 3D printing (Slicer software, machine operation and maintenance), laser cutting, vinyl printing, sewing, soldering

Programming: Java, C++ for Arduino, MATLAB, Python

Other: Microsoft suite, technical writing, advanced Spanish language, automotive work

WORK EXPERIENCE

PACCAR Technical Center, Mt Vernon, WA — *Intern, Vehicle Performance Department*

June 2021 - September 2021

Created finite element models of assemblies found in Class 6 and 8 semi-truck tractors to be used in noise, vibration, and harshness analyses. Also assisted with fuel economy, aerodynamics, and durability testing in class 6 and 8 trucks, and designed a test fixture intended to allow the characterization of a class 8 tractor trailer's dynamics.

Sky High Window Cleaning, inc., Seattle, WA — *Rope Access Technician*

June 2019 - September 2020

Carried out janitorial services around the King County metropolitan area.

FABLAB at the University of Chile, Santiago, Chile — *Intern, Mechanical Engineering*

June 2018 - August 2018

Led a research project combining rapid prototyping techniques with advanced organic materials.

AltRider, LLC, Seattle, WA — *Junior Product Developer & Warehouse manager*

September 2017 - January 2018

Updated product designs and created new ones; manufactured prototypes and checked their compatibility and functionality with vehicles, and sent finalized drawings to manufacturers. Also had routine warehouse responsibilities.

Fives Lund, LLC, Seattle, WA — *Intern, Mechanical Engineering*

June 2017 - September 2017

Drafted drawings of industrial machinery designs and wrote macros to help streamline the introduction of a new project organization system.

Birchwood Automotive Repair, Bellingham, WA — *Apprentice Technician & General Laborer*

June 2017 - September 2017

Performed basic automotive troubleshooting and repairs and maintained the shop space, supplies, and car wash bays.

Windwood Enterprises, LLC, Bellingham, WA — *General Laborer*

June 2016 - September 2016

Worked in a crew installing and maintaining residential irrigation and landscaping features.

OTHER EXPERIENCE

UW EcoCar Mobility Challenge — *Fuel System Team Lead* (Spring '18 - Spring '19) & *CAV Hardware Team Lead* (Summer '19 – Spring '20)

Designed a fuel system and CAV mounting hardware for an overhauled AWD Chevy Blazer hybrid. The process included component research, sourcing, modeling, and fabrication. As project team lead, I also delegated tasks to other team members and led communications with other project teams and team leadership.

PACCAR-Sponsored Senior Capstone Project — Winter & Spring 2021

During this two-quarter capstone project, I worked in a team with four other mechanical engineering students to examine and evaluate some of the most common finite element joint modeling methods currently employed in the industry. The goal was to identify which techniques most accurately simulated the stiffness of bolted interfaces found on the frames of PACCAR trucks. A test specimen consisting of a short section of frame rail with two different bracket configurations bolted to it was subjected to quasi-static loading, and the calculated stiffness and displacement values were then compared with simulated values.

EDUCATION

University of Washington, Seattle, WA

Current mechanical engineering student working toward a Bachelor of Science with a Spanish minor. Graduating in June 2022. Current cumulative GPA: 3.43 (4.0 Scale).

Sehome High School, Bellingham, WA

Graduated in 2017 with honors. Four-year varsity wrestler, captain junior and senior year. Completed four AP classes. Final cumulative GPA: 3.89 (4.0 Scale)

COURSEWORK

Undergraduate

ME 499: Special Projects – Credit for participation in the EcoCar Mobility Challenge. Grade points were evaluated based on a final report that was compiled outlining the design and simulation processes.

ME 499: Special Projects – Credit for participation in the second quarter of the PACCAR-Sponsored Senior Capstone Project.

ME 478: Finite Element Analysis – Covered theory and applications of FEA as it relates with mechanical engineering (solid mechanics, heat transfer, and dynamic systems). Labs involved hands-on, guided practice using Ansys Mechanical.

ME 410: Nanodevices – Covered design, fabrication, manufacture, and applications of state-of-the-art nano devices, as well as relevant material classifications and selections. Labs allowed hands-on design projects using Arduino Uno boards.

ME 450: Introduction to Composite Materials and Design – Covered laminate theory, design philosophies, and stress and strain analysis of continuous fiber composite materials (plus a short unit on short fiber composite materials), including failure criterion and computational structural analysis techniques. Biweekly homework assignments involved writing Python scripts which evaluated composite performances under given conditions, and lab demos allowed hands-on experience in CFRP layup fabrication, mechanical testing, and post-processing.

SPAN 323: Introduction to Spanish Linguistics – Covered Spanish phonology and phonetics, morphology, syntax, dialects, and evolution.

SPAN 321: Introduction to Hispanic Literary Studies – Covered literary analysis techniques and their applications in contemporary Spanish and Latin American narrative, poetry, and theater.

IP: *ME 480: Computer Aided Technology, ME 469: Applications of Dynamics in Engineering, SPAN 480: Spanish Medieval Literature*