CALVIN NGUYEN

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EDUCATION

University of Washington
Expected Graduation: 2023

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

- GPA: 3.75/4.00
- UWashington Formula Society of Automotive Engineers (FSAE).
- Society of Manufacturing Engineers (SME).
- Society for the Advancement of Materials & Process Engineering (SAMPE).

EXPERIENCE

Tesla, Inc.
September - January 2023

EXTERIOR ENGINEERING INTERN

- Responsible for designing, prototyping, validating, releasing, and launching components such as Front & Rear Fascia Assemblies, Wheel Liners, Sound Absorbers, Underbody shields, Rocker panels, and other trim components for Tesla electric vehicles.
- Designed for injection molding and various plastic manufacturing processes.

The Boeing Company
June 2022 - September 2022

MECHANICAL & HYDRAULICS SYSTEMS ENGINEERING INTERN

- Ensured Flap/Slat Priority Valve temperature requirements are compliant to 777-8/9 SCD by conducting material and thermal expansion analysis.
- Aided in revising new center hydraulic standpipe requirements for tire threat events by conducting a coordination sheet to communicate changes between engineers.
- Created a mechanical hydraulics component master spreadsheet that enabled quicker identification of components, their suppliers, and their airplane models by collecting data through REDARs and CSDT.
- Completed 40+ hours of CAD training: CATIA V5 Foundations for Aerospace Designers.

UW Formula SAE
September 2021 - Present

DRIVETRAIN ENGINEER

- Collaborated in a team of 6 to design an in-hub 4WD planetary gearbox and assembly to aid in transferring energy from the motors to the wheels for an electric Formula-style race car.

Thermal Northwest Inc.
2017 - 2020

AEROSPACE FABRICATOR / ASSEMBLER

- Boosted production of 737-MAX APU ducts by 500% by training new employees about the production system which increased the workforce.
- Reduced capstan system installation time by 200% by developing a pre-taping method that keeps capstans in place.
- Decreased sheet metal forming time by 60% by pressing and forming a wider area of metal skins at once.

PROJECTS

UW Formula SAE
November 2021

MOTOR MOUNTING PLATE DESIGN

- Designed a motor mounting plate for a Formula-style race car to attach the motors, suspension uprights, and cooling jacket together while also maintaining concentricity.
- Increased shear modulus of fasteners by 42.2% by switching from 6061 aluminum to grade 2 titanium.
- Increased yield strength by 45.1%, fatigue strength by 39.3%, and ultimate tensile strength by 45.8% compared to previous mounting plate designs by switching from 6061 to 7075-T6 aluminum. Justified material selections by simulating various static structural solutions using Finite Element Analysis (FEA).

UW Formula SAE
November 2021

CAR SUSPENSION ASSEMBLY JIG DESIGN

- Created an assembly jig that press fits and removes suspension uprights with bearing carriers for a Formula-style racecar. Integrated a hydraulic press able to compress 4 tons of force.
- Reduced assembly time.

SKILLS

- CATIA V5/V6 & SolidWorks — Experienced in Surfacing, 3D part modeling, 2D drawing, assemblies, stress analysis, and writing CAM for manufacturing.
- GD&T — Exposed to Geometric Dimensioning and Tolerancing.
- ANSYS — Experienced with Static Structural Analysis, and using Granta CES for material selction.
- MATLAB — Experienced with Control Systems and Simulink block diagrams.
- Python — Experienced in using Matplotlib package, Array slicing, 2D arrays, For loops, Nested for loops, Fast Fourier Transform, Odeint, reading/writing CSV files, and writing g-code.
- Shop Experience / Machining — Hands-on experience in using CNC machines, resistance welder, drill press, electrical drill, pneumatic-powered tools, texturizing machine, autoclave, and deburring equipments.