Anderson Sutandinata

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Education

Carnegie Mellon University:
B.S. in Mechanical Engineering, Additional major in robotics, Total GPA 3.83 — May 2024
M.S in Mechanical Engineering — May 2025
Palos Verdes Peninsula High School, Total GPA 4.84 — June 2020

Project Experience

Carnegie Mellon Formula SAE: Gearset Lead (May 2023-present)

- Designed gear transmission system for 2024 racecar, after switch to new tire size
- Conducted hand calculations to estimate gear lifetime based on gear teeth's static and dynamic loading
- Performed analysis of gear microgeometry in SMT MASTA software

Carnegie Mellon Formula SAE: Chassis Lead (May 2022-June 2023)

- Designed steel tube chassis for FSAE team's 2023 vehicle
- Accounted for driver ergonomics while meeting required dimensions for rules
- Performed torsional stiffness and modal analysis in Ansys Mechanical, driving chassis structure while minimizing mass

Carnegie Mellon Formula SAE: Brakes Lead (September 2021-May 2022)

- Performed necessary calculations to determine master cylinder diameter, and desired brake line pressures
- Analyzed forces from brakes system, and designed brake rotors to function under calculated loads through ANSYS FEA
- Performed transient thermal analysis to determine brake rotor heating
- Evaluated material options for rotor and material combinations to maximize pad friction as rotor heats up

Work Experience

Tesla Motors-Battery Structures Design Intern (May-August 2023)

- Ownership of multiple mass-produced parts in Cybertruck battery pack housing
- Worked with suppliers to improve manufacturability for formed and injection molded parts
- Analyzed parts in Ansys Mechanical to ensure part reliability across a series of user load cases
- Performed RTV testing and created MATLAB script to characterize across a series of parameters
- Worked with technicians and new product teams to implement designs on intermediate solutions

Space Exploration Technologies-Production Engineering Intern (May-August 2022)

- Designed tooling and ground support equipment to assist in Starlink v2.0 manufacturing
- Analyzed technician ergonomic positions and loads to ensure safe usage and maintenance
- Developed testing rig for parts I designed to perform proof loading before entering the production line
- Performed tolerance stackups to ensure tooling designed meets required tolerances
- Released multiple drawing packages containing part GD&T to meet maximum tolerances

Leadership

Carnegie Mellon Formula SAE: VP of Structures (June 2022-Present)

- Led the ground up design and manufacturing of an electric 4 wheel drive racecar for the FSAE competition
- Developed timeline for the mechanical engineering development of our 2023 vehicle
- Set technical performance goals and developed plans for individual systems to meet set goals and timeline
- Provided engineering feedback and direction to every mechanical subsystem(20+) during design reviews
- 1st place US team at the international Formula SAE Competition in the 2023 season

Carnegie Mellon Formula SAE: Powertrain Captain (June 2021-June 2022)

- Led scope of architecture changes in powertrain from 2020 to 2022's car
- Researched implementation of various dynamic seals into uprights to prevent leaking
- Developed drawings for car brake rotors, uprights, and hubs
- Oversaw integration between uprights, hubs, gearset, brakes, and cooling systems
- Coordinated with machine shops and sponsors to ensure part machinability, and appropriate deadlines for vehicle uprights and hubs

Additional Information

Software Skills:
Solidworks, NX, Catia V6, Ansys Mechanical, Python, Arduino, Matlab, Microsoft Office, Atlassian Suite
Manufacturing Skills:
CNC Mill, CNC Lathe, Manual Mill, Waterjet, Lathe, Bandsaw, Drill Press, Laser cutter, 3d printer