GLENN PETERSEN

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PROFILE

An enthusiastic mechanical engineer looking to apply analysis and manufacturing principles to design problems.

EDUCATION

California Polytechnic State University, San Luis Obispo
Master of Science in Mechanical Engineering — Expected Graduation June 2022
Bachelor of Science in Mechanical Engineering — 3.8 GPA (3.9 Major GPA)

RELEVANT EXPERIENCE

Lawrence Livermore National Laboratory — Livermore, CA
Mechanical Engineering Intern — *June 2021 to September 2021*

- Developed diagnostic assembly fixture with considerations for ergonomics and process flexibility.
- Worked closely with technicians during development to ensure novel solution is effective.
- Selected best method to enable a multi-axis rotational fixture and organize 160+ optical fibers.
- Designed-in OTS components to handle appropriate operating loads, validating stiffness/strength via MathCAD.
- Considered DFM/A with special influence of repeated disassembly and storage of device.
- Iterated fiber organizing feature with 3D printed prototypes enabling real time feedback from technicians.
- Worked with full-time engineer to implement full scale prototype post internship.

Mechanical Engineering Intern — *June 2020 to September 2020*

- Developed optical alignment fixture to aid accuracy and repeatability of device assembly.
- Conducted formal design development process through camera selection and component design.
- Conducted tolerance stack-up analysis of assembly to guide component selection and part feature GD&T.
- Utilized DFM/A principles enabling cost effective manufacturing and easy installation and storage.
- Identified dynamic tip-over hazard created by limited working space and large operating height range.

Senior Project — San Luis Obispo, CA
Adjustable Bike Headtube Angle Headset — *September 2020 to June 2021*

- Manufactured an adjustable headset working for the average mountain bike headset standard.
- Designed for ±2° steering axis adjustable relative to headtube angle, providing user-customizable ride dynamics.
- Worked to create design prioritizing strength, stiffness, and manufacturability.
- Analyzed assembly contact stress and deformation via iterative FEA and tensile testing.
- Programmed CAM and manufactured prototype and test fixtures on a 3-axis Haas VF2 Milling Center.
- Test rode prototype on local trails targeting wear-and-tear and ergonomic performance.

LEADERSHIP

Cal Poly ME Dept. — San Luis Obispo, CA
Teaching Associate, ME 251 & ME 130 — *September 2021 to June 2022*

- Taught undergraduate solid modeling, detailed technical drawings, GD&T, and drafting principles.

Cal Poly Machine Shops: Safety Supervisor & Senior Tech — *September 2018 to Present*

- Advised and educated students to use various shop tools and equipment.
- Train and educate other shop techs with shop safety protocols and practices.
- Ensure shop compliance with EH&S standards and trainings.

Cal Poly Bike Builders
President — *September 2017 to June 2022*

- Organize functional capabilities of club from officer meetings to events such as the Pixie Bike Derby.
- Support club projects to gain new member involvement and skill development.

TECHNICAL SKILLS & INTERESTS

CAD | SolidWorks, Fusion 360, PTC Creo
Programming & Data Analysis | MATLAB (PDE Toolbox, Simulink), Minitab, R, MathCAD
Design & Development | Rapid Prototyping, FEA (Abaqus), System Analysis, DFM/A, GD&T, Thermal Analysis
Manufacturing | Manual Machining, Brazing & TIG/MIG Welding, CNC Mill & Router, Composite Layup
Testing | Tensile loading, Metrology and Quality Inspection, Lifecycle and Wear, Product Application