

Justice Petersen

justicepetersen.com | linkedin.com/in/justicepetersen | Oakland, CA

EDUCATION

California Polytechnic State University, San Luis Obispo (Cal Poly SLO) – B.S., Mechanical Engineering

Junior – Graduation June 2028 | 3.5/4.0 GPA

Ashesi University, Ghana – International Exchange, Mechanical Engineering

Sep. 2025–Dec. 2025

EXPERIENCE

ENGINEERS WITHOUT BORDERS, CAL POLY SLO

Project Manager

Mar. 2026–Present

- Lead a 20+ student engineering team developing and implementing multiple water, sanitation, and public hygiene systems to serve the 3,500+ residents of Masogo, Kenya.
- Conducted field verification and troubleshooting of a previously implemented solar-powered water system during a two-week in-country assessment, identifying installation discrepancies and coordinating root-cause analysis and corrective actions with local technicians and solar specialists.
- Facilitate iterative co-design with community members and multidisciplinary subteams, redesigning proposed facilities around user feedback, technical feasibility, and locally defined privacy considerations.
- Co-manage a \$20,000+ annual project budget and develop drawings and contract documentation to define and balance scope, schedule, and structural and aesthetic design requirements.

Structural Design Team Member

Sep. 2024–Mar. 2026

- Refined shower-facility layout within footprint constraints and contributed to BOM and O&M development.

XL CONSTRUCTION

Project Engineer Intern – Oakland, CA

June 2026–Aug. 2026

- Managed RFIs and submittals through review and resolution, verifying compliance with drawings and specifications; identified discrepancies in reinforced-concrete shop drawings, coordinated resolution with the civil engineer and trades, and directed revisions to drawings for approval.
- Resolved lighting, ductwork, and in-wall device conflicts by reconciling drawings and 3D models with field conditions, developing conflict schematics, and coordinating relocations with trades and the client.
- Documented and assigned 150+ quality and code-compliance observations, proactively identifying potential issues and coordinating resulting change impacts with trade partners.

Project Engineer Intern – San Carlos, CA

June 2025–Aug. 2025

- Supported a \$60M office-to-lab conversion through review and management of RFIs and submittals.
- Conducted daily site walks to identify field conflicts and coordination issues.

PROJECTS

Bracelet Buddy Assistive Product Design – Cal Poly SLO

- Collaboratively designed an assistive device enabling one-handed bracelet fastening and removal, translating simulated user interviews into usability, durability, and <5 lb grip-force requirements.
- Integrated components in a SOLIDWORKS assembly and 3D-printed the prototype for iterative testing.

Turbofan Jet Engine Assembly – Ashesi University

- Contributed to a 57-part, 760-component SOLIDWORKS turbofan assembly, coordinating component integration and producing engineering drawings and animations.

SKILLS

CAD & Design: SOLIDWORKS, DFM, engineering drawings, BOM/BOQ development

Manufacturing & Prototyping: 150+ hrs machine shop/lab; CNC, lathe, 3D printing, materials joining

Analysis & Verification: MATLAB, engineering measurement, statistical data analysis, design verification, alternatives analysis, root-cause analysis