

SPENCER BLAHEY

Mechanical Engineer

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EXPERIENCE

Mechanical Engineer

Pronto AI

📅 November 2024 – Current 📍 San Francisco, CA

- End-to-end development of custom drive-by-wire systems for autonomous off-road vehicles.
- **Rapid prototyping** using sheet metal, CNC manufacturing, and additive manufacturing to reduce development cycles.
- Hands-on **fabrication and installation**, personally conducting field tests to validate performance.
- Collaborating cross-functionally with software and electrical teams, optimizing mechanical designs for sensor integration.

Product Design Engineer

Daylight Computer Co.

📅 August 2023 – October 2024 📍 San Francisco, CA

- **Product Development** from EVT to MP; iterating CAD models, as well as managing timelines and supply chain relations (including Asia trips). Developed our packaging and unboxing experience.
- Leading parallel **R&D explorations** and early development of DC2; leveraging diverse skills to overcome project constraints and achieve results.
- Established an early-stage **user testing program**, coordinating inventory and feedback from over 150 users to refine product design and usability.

Project Engineer

Holcim

📅 September 2022 – May 2023 📍 Vancouver, BC

- Responsible for pushing large-scale capital projects forward to **improve and sustain** plant operations (>\$20 million annual spend).
- Full **life-cycle management**; concept and scope development, assembly validation (AutoCAD), contractor scheduling/supervision, QA and evaluation.
- Collaboration with new works team and other department heads to **assess projects risks**, modifying if necessary to avoid delays or unforeseen impacts.

PROJECTS

Near-Infrared Medical Device

Proof of Concept

📅 July 2023

- Collaborated within a research group associated with the University of Texas; product ideation/exploration, prototyping & project management.
- Drove the mechanical design in **SolidWORKS**, developed schematics for the electronics, sourced components from suppliers & iterated upon builds.

Powertrain Assembly

Queen's Baja SAE

📅 April 2020

- Led a team of 3 to develop a driveshaft and U-joint system; responsible for **CAD design**, sourcing components, manufacturing and testing the assembly.
- Performed **FEA** using **ANSYS Workbench**; simulated predicted loading scenarios and **iterated models** until reaching the desired safety factor.

EDUCATION

Bachelor's of Applied Science (Mechanical Engineering)

Queen's University

📅 Sept 2017 – Apr 2021 CGPA: 3.93/4.0

COURSEWORK

- Manufacturing Methods
- Ergonomics
- Numerical Methods
- Machine Design
- ODEs
- Electrical Circuits & Machines
- Automatic Controls
- Intro to Robotics

SKILLS

Design & Development

- **SolidWORKS, Fusion 360, AutoCAD** to model and assemble various components, followed by **FEA** for evaluation and **GD&T** for manufacturing.
- **Mastercam** to generate code for controlling CNC machines and manufacturing custom components.
- **MATLAB, Simulink** for dynamic/embedded system design and automatic control.
- **HTML & CSS3** for web development, progressing into **JavaScript & React** for dynamic application design.

Practical

- **Manual & CNC Machines** such as mills, presses, lathes, plasma/laser cutters, etc.
- **Hand & Power Tools** working with an assortment of materials and for assembly.
- **3D Printing (FDM, SLA)** to rapidly prototype custom parts.
- **SMAW & GTAW** for joining metals during past internships.
- Have implemented **Root Cause Analysis & DFMEA** to address design issues and create mitigation plans.

AWARDS

- **Heart of Gold** - Recognition for academics and community initiative (\$12000)
- **James H. Rattray Mem.** - On basis of academic merit and EC involvement (\$3125)
- **Clifton C. & Barbara M. Prize** - Granted to the highest standing mechanical student (\$900)