

SPENCER BLAHEY

Mechanical Engineer | Canadian Citizen

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📍 Vancouver, BC

EXPERIENCE

Project Engineer-in-Training

Lafarge Canada

📅 October 2022 – Current

📍 Richmond, 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.

Maintenance Engineering Internship

Newmont Mining Corp.

📅 Apr 2020 – Sept 2020

📍 Timmins, ON

- Performed a **PFMEA** on the maintenance planning process to understand risks and implemented **lean principles** to reduce operational deficiencies.
- Developed a VBA workbook to manage the annual budget creation (>\$30 million) which eliminated over 3 weeks of yearly data management work.
- Built algorithms to utilize IoT fleet-management data to **identify production deficiencies** in our haulage trips and mine personnel activities.

Underground Maintenance Technician

Goldcorp Inc.

📅 Apr 2019 – Sept 2019

📍 Timmins, ON

- Performed **preventative maintenance** on the underground mobile fleet to reduce risk of equipment failure and operational delays.
- Managed time to complete large **corrective maintenance** actions (i.e. engine replacements) within the planned timelines, maintaining **shop KPIs**.
- Travelled throughout the mine to perform **field-level repairs**, develop rapid solutions and minimize downtime; boosting mine-wide productivity.

PROJECTS

4WD Powertrain Assembly

Queen's Baja SAE

📅 Sept 2018 – May 2019

- 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.

Autonomous Aeroponic Farming System

Queen's Vertical Farming Team - Inaugural Year

📅 Sept 2019 – Apr 2020

- Used **Microsoft Visio** to develop a series of system flowcharts and **MATLAB** to perform process calculations, sizing the required components.
- Drove the mechanical design in **SolidWORKS**, assisted with planning the **Arduino** control system, and contributed to the website's **front-end build**.

EDUCATION

Bachelor's of Applied Science (Mechanical Engineering)

Queen's University

📅 Sept 2017 – Apr 2021

CGPA: 3.93/4.0

COURSEWORK

Manufacturing Methods Mechatronics

Numerical Methods Machine Design

ODEs Electrical Circuits & Machines

Automatic Controls Intro to Robotics

SKILLS

Design & Development

- **SolidWORKS, NX, 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.
- Introduced to **SMAW & GTAW** for joining metals during past internships.
- Have implemented **Root Cause Analysis & DFMEA** to address design issues and create mitigation plans.

ACHIEVEMENTS

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