UBC Science Co-op
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KAMYAR MOMENI

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EDUCATION

University of British Columbia *September 2022-May 2027*
B.S in Engineering Physics with Minor in Commerce
Overall GPA: 4.0

SKILL SETS

Mechanical: SolidWorks, AutoCAD, Laser Cutter, 3D Printer, Machining, Prototyping, Tolerance Stack-Up Analysis, FEA, ANSYS

Electrical: PCB Design and Prototyping, analysis techniques in the context of electric and electronic circuits. Treatment of RLC circuits, phasors, op-amps. Comprehension of nonlinear circuit elements, diodes, BJT, and FET circuits, signals and systems.

Software: C/C++, Java, Arduino, MATLAB, Python

EXPERIENCE

LB Foster January 2024 - May 2024
Mechanical Engineer Co-op *Vancouver, B.C*

- Created detailed 3D models and 2D drawings of train-mounted components, including assemblies, subassemblies, and parts with complex geometries.
- Integrated design criteria such as weight, material selection, and dimensional tolerances to optimize for manufacturability.
- Applied Design for Manufacturing and Assembly (DFMA) principles to streamline production and reduce costs.
- Conducted design iterations to balance innovation and cost efficiency by selecting materials and processes that met performance and budget constraints.

UBC Solar January 2023 - present
Battery Mechanical Senior Member *Vancouver, B.C*

- Conducted flow simulations in SolidWorks to analyze the effectiveness of cooling fans
- Designed and optimized 3D printed cell holders for print quality and strength. Performed tolerance stack-up analysis to ensure proper fit onto module sheet
- Built multiple cell module sheets using spot welding and soldering techniques

TECHNICAL EXPERIENCE

Robot Design Project

- Acquired practical experience in designing and prototyping engineering systems, with a focus on both mechanical and electrical components.
- Involved in the full product development cycle, from initial concept creation to the assembly and testing of prototypes.
- Developed mechanical components using CAD software (e.g., SolidWorks) and performed simulations to ensure structural integrity and functionality.
- Designed and implemented electrical circuits, including power supply management, signal conditioning, and PCB layout, ensuring seamless integration with mechanical systems.

Closed Loop Motor Speed Controller

- Made a circuit to count and control the speed of a motor using components such as latch/reset generator, counter, D-Latch, DAC, and error signal amplifier.
- Designed an error amplifier and used a BJT for motor current control.
- Integrated a potentiometer to regulate motor input current.