Alby Einstein

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Education

Bachelor of Engineering Co-op (BEng) | *Engineering Physics*   **2024 – 2029**

McMaster University

- Enrolled in level 2 of McMaster University's Engineering Physics Co-op program, eligible for 4-month co-op placement starting May 2026

CS50: Introduction to Computer Science | *Harvard University (edX online Certificate)*   **Jul 2024**

- Earned certification in foundational computer science concepts including algorithms, data structures, memory, software engineering, and web development using C, Python, SQL, HTML, CSS, and JavaScript

Experience

Instrumentation Research Assistant | *Kinectrics Inc., Etobicoke ON*   **May – Aug 2025**

- Performed over 30 diagnostic tests and provided consulting and forensic analysis on low to high voltage electrical power equipment, contributing to improved reliability and safety assessments
- Conducted 20+ laboratory experiments and supported 3 R&D initiatives, including component failure analysis that led to the redesign of a critical transformer part, improving lifespan by an estimated 20%
- Developed a custom MATLAB and Excel-based software tool that automated test data acquisition and instrument control, reducing manual processing time by 40% and increasing data accuracy

Projects

Computational Heart Model | *Computational Multiphysics Course Project*   **Mar – Apr 2025**

- Developed a 3D computational model of blood flow through the human heart using COMSOL Multiphysics, simulating over 100,000 mesh elements for high-resolution analysis
- Applied principles of fluid dynamics and cardiovascular physiology to simulate realistic blood flow patterns, showing competency in critical thinking and modelling proficiency
- Conducted sensitivity analyses to learn the impact of various physiological parameters on blood flow

Extracurricular Activities

Airframe Sub-team Member | *McMaster University Rocketry Team*   **Oct 2025 – Present**

- Designed, analyzed, and optimized 7 different airframe structures for high-power rockets using SolidWorks, AutoCAD, ANSYS, and Abaqus, showing adaptability to different software tools
- Performed stress analysis, FEA, and structural testing, including static, dynamic, and thermal analysis
- Skilled in machining, welding, composite layup, and blueprint reading
- Collaborated with other sub-teams to assemble final aircraft, demonstrating adaptability and communication skills

Skills

Programming Languages: Python, C/C++, MATLAB, Javascript/HTML/CSS, R, SQL

Software: SolidWorks, AutoCAD, ANSYS, Abaqus, COMSOL Multiphysics, Multisim, Maple, MS Office, GSuite