

Bob Builder

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Education

Bachelor of Engineering Co-op (BEng) | Mechanical Engineering

2024 – 2029

McMaster University

- Enrolled in level 3 of McMaster University's Mechanical Engineering Co-op Program, **eligible for 4-, 8-, 12- and 16-co-op positions** starting May 2027

Experience

Mechanical Design Engineer Co-op | Burlington ON

May - Aug 2025

Evertz Microsystem Ltd.,

- Designed and optimized mechanical components and assemblies using SolidWorks, resulting in a 15% reduction in material costs
- Conducted finite element analysis (FEA) using ANSYS to ensure structural integrity and performance, reducing failure rates by 10%
- Utilized CNC machining and 3D printing for rapid prototyping, decreasing production time by 14%
- Collaborated with cross-functional teams to develop prototypes, highlighting adaptability and communication skills in industrial environments

Extracurricular Activities

Aerodynamics Sub-Team Member | Formula Electric Team

Sept 2025 – Present

McMaster University

- Designed, analyzed, tested, and validated the vehicle's aerodynamic package, including the front wing, rear wing, nosecone, and radiator ducts
- Utilized 2D and 3D CFD and FEA to optimize downforce creation and drag reduction, improving handling and traction by 20%, and overall efficiency by 15%
- Conducted iterative improvements and optimizations based on fundamental concepts and research, reducing lap times by 10%
- Collaborated with suspension, steering, and cooling sub-teams to integrate airflow and vehicle dynamics considerations, demonstrating problem-solving, communication and teamwork skills

Skills

Software | SolidWorks, ANSYS (FEA & CFD), Autodesk Inventor, MATLAB, Python