Alif Ayman Mahin

Mechanical Engineering Co-Op Student

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EXPERIENCE

The Commons, Memorial University Jan '25 — Apr '25
Engineering Co-op Student St. John's

- Provided technical support for **3D printers**, **electronics**, and **design software** to 50+ weekly users
- Reengineered large-format printing pricing model, increasing **cost recovery** by 25%
- Led 6+ hands-on **Arduino** and **3D printing workshops**, training over 35 participants
- Diagnosed and calibrated **FDM printers**, improving print quality and uptime

PROJECTS

Mars Rover Design Team - CIRC, Sidus Robotics Link Feb '25 — Present

- Designed a **4-DOF robotic arm** in **Autodesk Inventor**; optimized with **simulation** to reduce mass by 20%
- Fabricated components using **3D printing** and **machining**; coordinated **electrical integration**
- Built and assembled **rocker-bogie suspension**; contributed to full **mechanical system assembly**

UAV Development Team, Valiant Aerotech Link Jun '25 — Present

- Designed and prototyped wildfire-response drone components using **Fusion 360**, and **FDM 3D printing**
- Simulated aerodynamic performance in **Ansys Fluent**, applying core **aerospace engineering** principles
- Began development of a **quadcopter UAV platform**, focusing on frame design, and thrust optimization

Emergency Outboard Motor Mount, MUN Design Project Link May '23 — Aug '23

- Designed a detachable motor mount in **Onshape**, applying **fastening theory** and **stress analysis**
- Produced detailed **GD&T part drawings** and **BOM**; the project earned a 90% final score

EDUCATION

Bachelor in Mechanical Engineering Co-op, Memorial University of Newfoundland Jan '23 — Present
St John's

- Completed key courses such as **Mechanics of Solids, Production Technology, Fluid Mechanics,** and **Thermodynamics**, building a solid foundation in **mechanical analysis** and **system design**.
- Applied concepts through hands-on labs and projects using **SolidWorks**, **MATLAB**, and **manual calculations**, strengthening **design**, **modeling**, and **problem-solving** skills.

SKILLS

Design Software Inventor, SolidWorks, Fusion 360, Onshape
Simulation Tools FEA, Motion Analysis, Ansys
Prototyping Techniques FDM 3D Printing, Machining, Soldering
Programming Languages Python, Arduino Software, C++, Javascript, HTML
Certifications and Safety WHMIS, Tool Handling Safety, Onshape (2023), 3D Printer Maintenance

AWARDS

Angus Bruneau Student LIFE Fund Jan '24
Student Design Hub - MUN
Secured competitive funding to support **Sidus Robotics' Mars Rover project** through a successful proposal to the Angus Bruneau Student LIFE Fund. The grant enabled critical development of **mechanical subsystems**, **prototyping**, and team resources for ongoing **engineering innovation**.

INTERESTS

Robotics · Aerospace Systems · Mechatronics · Automotive Engineering · Energy Systems