

# Rayan Raad

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## EDUCATION

### Concordia University

*Bachelor of Mechanical Engineering*

*Coursework:* Modelling, Simulation, & Control Systems, Properties & Failure of Materials, Programming for Mech Eng. (MIAE 215), Electronics for Mech Eng. (MECH 368)

Montreal, QC

Sep 2023 – May 2027

## EXPERIENCE

### Space Concordia

*Software Lead*

- Organized software task distribution, onboarding processes, and technical outreach during team events
- Led during Quebec Rover Challenge 2025 1st place finish with top scores in navigation and dexterity

May 2025 – Present

Montreal, QC

### Space Concordia

*Mechanical Engineer*

- Designed, CNC manufactured, and validated designs for rover using FEA and test data.
- Collaborated with software and electrical subsystem to ensure smooth integration.

Jan 2024 – Present

Montreal, QC

### FluoroSeal Group

*Sales Engineering Intern*

- Organized Excel sheets for valve systems, stock pricing, and Epicor order management software.
- Managed sample pricing, generated quotes, and evaluated solutions

Aug 2024 - Sep 2024

Beirut, Lebanon

## PROJECTS

### Object Sorting System Mini-Capstone | Team Lead

- Designed and modeled system components in CAD, ensuring manufacturability and adherence to specifications
- Developing a machine learning model to optimize system parameters for performance and efficiency
- Performed FEA on critical components to validate structural safety and efficiency improvements

Jan 2026 – Present

### Automated Watering System | Team Lead

- Led development of an automated system that collected moisture data and triggered actions based on thresholds
- Designed the system for independent operation by non-expert users with minimal supervision
- Implemented a modular architecture supporting multiple sensing nodes and reliable data acquisition

Aug 2024 – Dec 2024

### Gray Code Rotary Encoder | Individual

- Built a rotary position measurement system using Gray code, photoresistors, and logic ICs
- Converted Gray code sensor outputs to binary for real-time monitoring and reporting
- Validated measurement accuracy and repeatability across multiple operating positions

Feb 2025 – Apr 2025

### Thermoelectric Generator Vehicle | Team Lead

- Designed and tested a vehicle powered exclusively by thermoelectric modules
- Collected electrical output data under varying conditions and analyzed performance trends
- Integrated mechanical and electrical subsystems to ensure repeatable and reliable measurements

Mar 2025 – May 2025

### Automated Syringe Dispenser System | Space Concordia Member

- Developed a mechanically automated dispensing system for dangerous chemicals on our rover
- Ensured reliability and ease of operation for software and electrical interfacing
- Collaborated with a other subsystems team to validate performance

Nov 2024 – Dec 2024

## TECHNICAL SKILLS

**CAD & CAM:** AutoCAD, SolidWorks, Fusion360, 3D Printing

**Programming:** C++, ROS, Python, Arduino, MatLab Simulink, Excel

**Applications:** Bambu Lab, Bild, Word, Excel, PowerPoint, Teams, Outlook

**Licenses & Certifications:** Canadian Driver's License (In Progress), Concordia French Certificate, Advanced Excel Training Certification, OHS, WHMIS 2015, EDML Lab Certification

**Soft Skills:** Leadership, Teamwork, Project Planning, Communication, Organization

**Languages:** English, French, Spanish, Arabic