

# Rayan Raad

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## EDUCATION

<b>Concordia University</b> <i>Bachelor of Mechanical Engineering</i> <i>Coursework:</i> 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
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## EXPERIENCE

<b>Space Concordia</b> <i>Software Lead</i> <ul style="list-style-type: none"><li>Organized software task distribution, onboarding processes, and technical outreach during team events</li><li>Led during Quebec Rover Challenge 2025 1st place finish with top scores in navigation and dexterity</li></ul>	May 2025 – Present Montreal, QC
<b>Space Concordia</b> <i>Mechanical Engineer</i> <ul style="list-style-type: none"><li>Designed, CNC manufactured, and validated designs for rover using FEA and test data.</li><li>Collaborated with software and electrical subsystem to ensure smooth integration.</li></ul>	Jan 2024 – Present Montreal, QC
<b>FluoroSeal Group</b> <i>Sales Engineering Intern</i> <ul style="list-style-type: none"><li>Organized Excel sheets for valve systems, stock pricing, and Epicor order management software.</li><li>Managed sample pricing, generated quotes, and evaluated solutions</li></ul>	Aug 2024 - Sep 2024 Beirut, Lebanon

## PROJECTS

<b>Object Sorting System Mini-Capstone</b>   <i>Team Lead</i> <ul style="list-style-type: none"><li>Designed and modeled system components in CAD, ensuring manufacturability and adherence to specifications</li><li>Developing a machine learning model to optimize system parameters for performance and efficiency</li><li>Performed FEA on critical components to validate structural safety and efficiency improvements</li></ul>	Jan 2026 – Present
<b>Automated Watering System</b>   <i>Team Lead</i> <ul style="list-style-type: none"><li>Led development of an automated system that collected moisture data and triggered actions based on thresholds</li><li>Designed the system for independent operation by non-expert users with minimal supervision</li><li>Implemented a modular architecture supporting multiple sensing nodes and reliable data acquisition</li></ul>	Aug 2024 – Dec 2024
<b>Gray Code Rotary Encoder</b>   <i>Individual</i> <ul style="list-style-type: none"><li>Built a rotary position measurement system using Gray code, photoresistors, and logic ICs</li><li>Converted Gray code sensor outputs to binary for real-time monitoring and reporting</li><li>Validated measurement accuracy and repeatability across multiple operating positions</li></ul>	Feb 2025 – Apr 2025
<b>Thermoelectric Generator Vehicle</b>   <i>Team Lead</i> <ul style="list-style-type: none"><li>Designed and tested a vehicle powered exclusively by thermoelectric modules</li><li>Collected electrical output data under varying conditions and analyzed performance trends</li><li>Integrated mechanical and electrical subsystems to ensure repeatable and reliable measurements</li></ul>	Mar 2025 – May 2025
<b>Automated Syringe Dispenser System</b>   <i>Space Concordia Member</i> <ul style="list-style-type: none"><li>Developed a mechanically automated dispensing system for dangerous chemicals on our rover</li><li>Ensured reliability and ease of operation for software and electrical interfacing</li><li>Collaborated with a other subsystems team to validate performance</li></ul>	Nov 2024 – Dec 2024

## TECHNICAL SKILLS

<b>CAD &amp; CAM:</b> AutoCAD, SolidWorks, Fusion360, 3D Printing
<b>Programming:</b> C++, ROS, Python, Arduino, MatLab Simulink, Excel
<b>Applications:</b> Bambu Lab, Bild, Word, Excel, PowerPoint, Teams, Outlook
<b>Licenses &amp; Certifications:</b> Canadian Driver's License (In Progress), Concordia French Certificate, Advanced Excel Training Certification, OHS, WHMIS 2015, EDML Lab Certification
<b>Soft Skills:</b> Leadership, Teamwork, Project Planning, Communication, Organization
<b>Languages:</b> English, French, Spanish, Arabic