

# MARCELO PEDROZA HERNANDEZ

## Summary

Versatile Computer Engineering student with a strong foundation in software development, machine learning, and product management. Proven ability to lead cross-functional teams, manage projects end-to-end, and deliver data-driven solutions. Passionate about building products that solve complex problems at the intersection of data and AI.

## Education

**Concordia University**

BEng, Computer Engineering

**2021-2026**

Montreal, QC

- Relevant Courses: Data Structures and Algorithms, Software Practices, Operating Systems, Probability and Statistics, Machine Learning and Neural Computing, Artificial Intelligence, Digital Systems Design I & II (x86 Assembly).
- Winter 2024: Semester abroad at the *University of Hertfordshire, London, UK*.

## Experience

**Pratt & Whitney Canada - Internship**

Development Engineering Supervisor

**September - December 2023**

Engine Centre Plant 01, Longueuil, QC

- Managed cross-functional communication to align technical goals with client demands.
- Led the development of a real-time engine-tracking dashboard, enhancing managerial visibility of assembly lines.
- Streamlined administrative processes with VBA and Python, resulting in a 300% efficiency boost.

## Academic Engagement

**Gina Cody Entrepreneurship Society (GCES)**

Director of Innovation

**April 2024 - Present**

Concordia University, Montreal, QC

- Overseeing a \$50k Innovation Fund, driving product innovation and commercialization for student projects.
- Leading the organization of our annual Entrepreneur Talks, connecting industry leaders with the student community.
- Providing mentorship and strategic guidance to emerging entrepreneurs.

**Space Concordia Rocketry Division (SCRD) - Starsailor**

Subsystem Lead: Despin

**May 2022 - Present**

Concordia University, Montreal, QC

- Integrating a passive attitude control system inspired by Nasa's yo-yo despin mechanism developed in 1967.
- Managing the complete lifecycle of the despin system, from design to manufacturing, assembly, and testing.
- Consistently meeting critical design review deadlines using Agile methodologies.

## Projects

- **Agent-Based Navigation in Graphs:** Developed an agent-based navigation system using information-theoretic measures, inspired by Marcus Clements' research on goal-directed navigation in urban environments.
- **Breast Cancer Prediction with PCA and SVM:** Developed a classification system using Principal Component Analysis (PCA) for feature reduction and Support Vector Machines (SVM) to predict whether tumors are benign or malignant from diagnostic data.
- **Smart Home Satisfaction Prediction with Random Forest:** Developed a smart home system that predicts occupant satisfaction using a Random Forest model and real-time environmental data, applying adaptive control strategies for optimal comfort.

## Skills

**Technical** | SQL, Python, C/C++, Java, JavaScript, HTML, CSS, Firebase, Linux, MATLAB, R, TensorFlow, API Integration

**Analytical** | Data-driven Decision Making, User & Market Research, Product & System Design

**Management** | Project Management, Technical Leadership, Agile Frameworks, Git, Notion, ClickUp, Bild, Monday