Cassandra Philogene

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Education

Concordia University — Montreal, QC
Bachelor Of Engineering, Electrical Engineering (Program Transfer) — *Winter 2026*

Concordia University — Montreal, QC
Bachelor Of Engineering, Computer Engineering — *Winter 2024 – Fall 2025*

College Lionel-Groulx — Sainte-Therese, QC
Diploma of College Studies (DCS), Health Sciences — *Fall 2021– Fall 2023*

Experience

SAE Aero-Design (systems) — June 2025 – Present
Concordia University

- Designed and assembled electrical and control subsystems (power distribution, wiring, and control interfaces) for a remote-controlled aircraft used in SAE Aero Design competition
- Took part in flight testing and analyzed results to improve performance
- Participated in prototype assembly, wiring, and electrical testing to validate system functionality

Hovercraft Prototype Competition — December 2025

- Built and designed an autonomous hovercraft, using an Arduino controller board and sensors to solve a given maze
- Designed detailed 3D hovercraft model using Fusion 360

Robowars Competition — April 17th 2025

- Designed and programmed an autonomous robot using Arduino Nano
- Implemented motor control, sensor integration, and real-time decision logic
- Focused on strategic movement, durability, and speed for competitive performance

Projects

Robot Operating System 2 (ROS2) Chess Robot Arm — Dec 2025 – Present
IEEE Club Project

- Developing a ROS2-based control system in Python to command a robotic chess arm
- Implementing motion planning and control logic for precise piece manipulation

Buck Converter PCB (Battery Eliminator Circuit) — Dec 2025 – Present
SAE Club Project

- Designing a buck converter PCB to regulate aircraft supply voltage for throttle systems
- Performing schematic capture, component selection, and LTspice simulations

Technical Skills

Programming: C, C++, Python, VHDL
Embedded Systems: Arduino, ROS2, Motor Control, Sensors
Hardware and Design: PCB Design, LTspice, Fusion 360
FPGA and Simulation: Vivado, ModelSim
Tools: GitHub, Linux, Visual Studio, PyCharm, Excel

Certification and Professional Development

Udemy : Beginning C++ Programming - From Beginner to Beyond
Udemy: C Programming Bootcamp The Complete - C Language Course