

CATHERINE HUANG

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Education

University of Waterloo

Waterloo, Canada

B.A.Sc. Honours Nanotechnology Engineering (81.91%)

Expected June 2030

- Extracurriculars: Engineering Design Teams, Engineering Society Class Rep, Quantum Club

Technical Skills

- Programming: Java, Python, C, C++, React, Numpy, HTML, CSS, JavaScript, Pandas
- Software: SolidWorks, MATLAB, MS Office, Git, Visual Studio Code, IntelliJ, KiCAD, CubeIDE
- Hardware/Lab: PCB assembly & troubleshooting, Microcontrollers (STM32, ATmega328P), Soldering, Breadboarding, Micropipetting
- Languages: English (Fluent), French (B1), Mandarin (Intermediate)

Projects

Electric Skateboard Tail Light System

September - December 2025

- Designed and implemented the tail light system using the ATmega328P microcontroller, integrating programmable LED patterns for visibility and user feedback
- Designed PCB in KiCad and assembled hardware by soldering SMD components; verified functionality using a multimeter and oscilloscope
- Coordinated with mechanical and electrical teams to align embedded system design with physical integration, battery packaging, and overall electrical system integration

Film Database Web Application

November 2024 - February 2025

- Developed a React-based web application that displays movie data via the IMDb API, replicating core functionality of a streaming service interface
- Integrated Firebase Authentication to support secure user login and account management
- Built modular UI components and ensured responsive design using HTML, CSS, and JavaScript

Embedded Motor Control System

January 2026 - Present

- Designed and implemented firmware to read analog input from an external ADC over SPI and translate it into a PWM signal for motor speed/position control
- Configured STM32 peripherals including SPI and timer modules using STM32CubeIDE

Experience

Dear Daisie Co-Founder, Toronto, Canada

December 2025 - Present

- Co-founded Dear Daisie, a meaning-driven gift brand offering plush flower bouquets, each written with a symbolic narrative
- Built a Shopify e-commerce website with custom CSS and managed social media marketing
- Coordinated with manufacturer to translate conceptual designs into finished products

Music Camp Counsellor, Schomberg, Canada

Summer 2023 - Summer 2025

- Served as a senior counsellor for three annual music retreats supporting 80+ junior students
- Facilitated daily small-group rehearsals (6-10 students), offering individualized feedback in orchestral score reading and string technique while adapting instruction to varied skill levels
- Collaborated with 2-5 peer leaders to execute large-scale team-building activities for 80+ students