Diep Le

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EDUCATION

McMaster University   Sept 2024 - April 2028
Bachelor of Electrical Engineering (B.Eng)   *Hamilton, ON*
- *Faculty of Engineering Award of Excellence*

TECHNICAL SKILLS

Technical Skills: PSpice, Quartus, Altium, Analog Discovery, AutoCAD, Arduino, ESP32, Raspberry Pi
Programming Languages: C/C++, Python, Verilog(HDL), MATLAB, R, HTML, CSS

PROJECTS

Sumobot - Autonomous Robot | C/C++, Arduino, Sensors, Motor Drivers, CAD
- Built an autonomous sumo robot by integrating **motors**, **motor drivers**, and **ultrasonic/IR sensors** into a compact chassis, resulting in **reliable sensing and motion control**.
- Programmed **movement and detection logic** using **Arduino C++**, achieving reliable **opponent detection** and **ring-edge avoidance**.
- Improved overall performance through **iterative tuning** of motor speeds and sensor thresholds, resulting in **stable motion** and fewer navigation failures.

Snake Game | C++, Object-Oriented Design, Memory Management, Data Structures
- Developed a functional Snake game by designing **modular C++ classes**, encapsulated **data structures**, and clear object interfaces, resulting in a **maintainable codebase** that supports **scalable** feature additions.
- Built core gameplay logic by writing **algorithms** for **movement updates**, **collision detection**, **boundary wrapping**, and **randomized item placement**, ensuring consistent and **deterministic runtime behaviour**.
- Improved program reliability by **managing dynamic memory** with **pointer safety** practices, debugging **logic branches**, and conducting **iterative functional tests**, reducing crashes and **eliminating memory leaks**.

VisionMusician Guitar Trainer | Python, CSV File Handling, Stress Testing, Research
- Developed an interactive and accessible guitar learning platform by implementing chord-rendering logic, timed events, and **data-driven configuration**, resulting in a **reliable and testable software** tool.
- Automated configuration updates through CSV-based data loading reduce manual edits and improve flexibility.

EXTRACURRICULAR

HackRx Competitor   Nov 2025
University of Waterloo | Technology in Pharmacy   *Hamilton, ON*
- Developed RXhale, a **cross-platform digital** health prototype by building a **functional pharmacist dashboard** and **patient mobile UI**, documenting **system workflows**, **structuring data models**, and **performing iterative** usability **tests** with cross-functional teammates.

Year Representative   Sept 2025 - Present
Electrical and Computer Engineering Society (ECES)   *Hamilton, ON*
- Represent **200+ ECE students** by collecting feedback and communicating concerns to support **data-driven decision-making** on the ECES council.
- Collaborate with council leadership to promote academic and professional events, improving student engagement.

EXPERIENCE

Arts & Culture Program Curator   June 2022 - Present
The Neighbourhood Group   *Toronto, ON*
- Led **end-to-end planning and execution** of a community exhibition in partnership with Toronto's Cultural Hotspot, coordinating **logistics**, **stakeholder** communication, and event operations for **150+ participants**.
- Designed and refined **project concepts** and **visual mockups**, collaborating with external **manufacturers** and **vendors** to meet **quality**, **budget**, and **timeline** requirements.