

PAIGE MCDOUGALL

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EDUCATION

Bachelor of Applied Science in Computer Engineering, University of Toronto

Expected May 2027

Relevant Courses: Data Structures and Algorithms, Software Communication and Design, Fundamentals of Deep Learning

SKILLS

Programming Languages	C/C++, C#, SQL, Python, JavaScript, HTML/CSS, MATLAB, Verilog
Other Technologies	PyTorch, TensorFlow, PostgreSQL, Git, React, FPGA, ModelSim, Linux

PROJECTS

Colour-Sorting Conveyor Belt

March 2025

- Used **C** to develop a colour-sorting system with real-time colour detection and servo actuation on an STM32 microcontroller.
- Implemented interrupt-driven control logic to classify objects and trigger sorting mechanisms with **95% accurately**.
- PWM to control DC and servo motors, optimizing timing and synchronization to ensure consistent, high-speed operation.

Inventory Management System

March 2025

- Used **PostgreSQL** to design and implement a relational database system to manage inventory for a fictional retail store.
- Wrote over 50+ SQL queries including complex JOINS, nested subqueries, aggregate functions, and window functions to generate sales reports, track low-stock items, and analyze customer purchase trends.
- Developed stored procedures and triggers to automate stock level updates and reorder notifications.
- Created optimized indexes and tuned query performance, reducing average query time by 35%.

Eeveelutions Object Detection Model

August 2024

- Used **Python** to develop a **deep learning CNN model** with transfer learning on Densenet to classify and detect Eeveelutions in Pokémon Go images.
- Implemented a **custom dataset** with 120 labeled images and created bounding box annotations using CVAT.
- Achieved **89% classification accuracy** using Adam optimizer, and cross-entropy loss, enhancing newer users' experience.
- Enhanced model efficiency by fine-tuning hyperparameters, reducing inference time by 30%.

Graphical Information System Tool

July 2023

- Developed route-finding map application using **C++**, EZGI, OpenStreetMaps API, and libcurl to display dynamic map details as well as **Python** for algorithm testing.
- Processed data, implemented search algorithms such as **Dijkstra**, **A***, and **Greedy algorithm** with 3-/4-OPT and ensured equity and accessibility by applying visual design heuristics.

EXTRACURRICULAR INVOLVEMENT

Orientation Leader

September 2022, 2023, 2024

University of Toronto

Toronto, ON

- Organized and led events for over 200 incoming engineering students, fostering community and inclusivity.
- Developed leadership and teamwork skills by coordinating with fellow leaders to ensure a smooth orientation week.
- Engaged in mentorship by providing guidance and support to first-year students.

EXPERIENCE

Barista

May 2022 - Nov 2024

Starbucks

Toronto, ON

- Thrived in a fast-paced, team-oriented environment by effectively communicating and coordinating with coworkers.
- Adapted quickly to changing priorities, mastering new routines and custom orders with minimal guidance.
- Maintained accuracy and composure under pressure, ensuring consistent service quality during peak rush periods.