

# Dillon Bordeleau

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## Education

**Carleton University** – BSc in Computer Science

May 2026 (Expected)

GPA: 3.9/4.0

**Publication:** *Loss of glutamatergic signalling from MCH neurons reduced anxiety-like behaviours in novel environments.*  
Journal of Neuroendocrinology, 35(1)|<https://doi.org/10.1111/jne.13222>  
Sankhe, Bordeleau, Alfonso, Wittman & Chee (2022)

## Projects

### [Embedded WiFi Thermometer](https://github.com/DBordeleau/PicoW-Wifi-Thermometer)

<https://github.com/DBordeleau/PicoW-Wifi-Thermometer>

- Developed an **embedded IoT** device on the **Raspberry Pi Pico W** in **C/C++**. Developed a DHT11 temperature and humidity sensor **device driver** from datasheet specifications, interfaced an SSD1106 OLED display via **I<sup>2</sup>C**, and hosted a HTTP server directly on the microcontroller to serve sensor data through a dynamic web interface.

### [CPU Scheduling Simulator](https://cpu-scheduler-sim.vercel.app/)

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- Built a full-stack web application that simulates key CPU scheduling algorithms (FCFS, SJF, SRTF, Preemptive Priority, Round Robin). Implemented the scheduling engine in **Java** and exposed it via a **Spring Boot REST API**, with a **React** frontend deployed separately. Designed and developed implementations for all scheduling algorithms. The simulation computes turnaround time, waiting time, and context switches for each process, providing an interactive visualization of OS scheduling concepts.

### [C++ Autograding Server](https://github.com/DBordeleau/cpp_autograder)

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- Developed an automated grading platform for C++ programming assignments. Submissions are compiled and tested in isolated **Docker** containers, with instant results delivered via a **FastAPI** web interface. Supports multiple assignments with customizable test cases and grading criteria, with results stored in a **SQLite** database. Admins can configure assignments and autograders through a config file or CRUD operations from the UI. Built with **C++**, **Python**, **FastAPI**, **SQLite**, and **Docker**.

### [Fantasy Hockey Database App](https://yofhl-db.vercel.app/)

<https://yofhl-db.vercel.app/>

- Built a full-stack web application to manage and visualize historical fantasy hockey league data beyond the capabilities of existing platforms. Designed, implemented and deployed a **PostgreSQL** schema from scratch and developed a **React** frontend with dynamic routing allowing users to make custom queries to the database. Requests are handled through the **Next.js** App Router, enabling flexible data queries and custom views.

## Work Experience

**Support Specialist**, Shopify – Ottawa, ON/Remote

January 2020 – May 2023

- Collaborated cross-functionally with developers, technical teams and Shopify partners to resolve technical issues with the e-commerce platform, POS app and retail hardware outside the scope of general support. Maintained above 90% customer-satisfaction (CSAT) scores in my interactions.
- Chosen to participate in a POS success initiative that helped raise net-promoter scores (NPS) by more than 20% and overall customer-satisfaction (CSAT) with the POS by more than 20%.

## Skills

**Languages:** C/C++, Python, Java, TypeScript, Swift, SQL.

**Tools/Frameworks:** CMake, Communication Protocols (UART, I2C, SPI), PostgreSQL, Spring Boot, JUnit, Qt, Valgrind, FastAPI, React, Node.js, Supabase, Amazon S3, Git, Docker.

**CS Fundamentals:** Object-Oriented Design, RESTful APIs, Operating Systems Concepts, Data Structures & Algorithms, MVVM Architecture.