Bradley Nguyen

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EDUCATION

Carleton University, Bachelor of Computer Science, Honours Program (Co-op) Ottawa, ON
Software Engineering Stream - Major CGPA: 10.31/12.0 *2023 – 2027*

Relevant Coursework: Abstract Data Types and Algorithms, Object-Oriented Software Engineering, Computer Systems, Web Development, Programming Paradigms, Database Management Systems

EXPERIENCE

dynaCERT Inc. May 2025 - December 2025
Full-Stack Developer | Co-op | TypeScript, React, Node.js, Express.js, C++, MySQL, Docker *Toronto, ON*
- Architected and deployed a full-stack **industrial IoT monitoring dashboard** with **18 RESTful APIs** and **20+ React components**, processing real-time telemetry from a **MySQL backend** for **450+ H_2 generator units**
- Delivered a self-serve filtering interface for **300K+ records**, cutting debugging data retrieval from hours to seconds and saving engineers **20+ hours/week**
- Built a **production-ready real-time telemetry processing system** for vehicle-mounted H_2 generator units, processing **40+ sensor data fields** from **concurrent ZeroMQ connections** with **protocol-aware parsing**, **graceful error handling** for malformed data, and **automated MySQL persistence**, ensuring improving reliability with protocol-aware parsing and graceful handling of malformed data for fleet monitoring and analytics

PROJECTS

t:slim X2 Insulin Pump Simulator | GitHub | *C++ (Qt), MVC* Jan. - Apr. 2025
- Built a full **Qt** desktop simulator with modular **MVC** design for pump, glucose, and insulin control logic
- Implemented **Control-IQ** basal adjustment algorithm and **30x** accelerated clock for testing
- Added **JSON telemetry** storage and centralized **AlertController** for safety history and PIN security

Dumpster Diver | GitHub | *Python, TensorFlow, Keras, Arduino, SQLite, Flask, PHP* Mar. 2025
- **Winner** at **cuHacking 6** ($300, 300+ participants) for an **IoT-enabled waste sorting system** using **TensorFlow CNNs**, **Flask APIs**, and **Arduino servos** for automated material classification, processing **100+ items/min** with **95% accuracy**
- Trained **TensorFlow CNN** for object detection, connected to Arduino servos via Flask API
- Designed **SQLite backend** for live dashboard logging and activity analytics

Playtopia | GitHub | *Starknet, React, Flask, OpenCV, Python* Jan. 2025
- **2nd place – Best Use of Starknet Challenge** at **uOttaHack 7** ($2.2K, 850+ participants)
- Built **blockchain game creator** with **React**, **Starknet contracts**, and **Flask** backend
- Used **OpenCV** ball tracking to trigger on-chain rewards

EXTRACURRICULAR ACTIVITIES

cuHacking Sep. 2025 - Present
Hacker Experience Team Lead *Ottawa, ON*
- Coordinate and enhance the participant experience for **300+ hackers** through event planning, workshops, and sponsor engagement initiatives
- Support technical workshops and hackathon preparation events to promote inclusivity and technical growth among university participants

TECHNICAL SKILLS

Languages: Python, C++, C, Java, SQL (Postgres), JavaScript, TypeScript, HTML/CSS
Frameworks/Libraries: React, Next.js Node.js, Express.js, Three.js Flask, Tailwind, Vite, MongoDB, Electron
Developer Tools: Git, GitHub, Docker, Google Cloud Platforms, Linux/Unix, Jira, Vercel, PowerBI, Excel, AWS
Methodologies: Agile, Scrum, Waterfall, Incremental, Kanban