

JOHNNY QU

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EDUCATION

Bachelors of Software Engineering, Co-op

McMaster University, GPA: 3.9/4.0

Expected Apr. 2025

Hamilton, ON

TECHNICAL SKILLS

Programming Languages: Python, SQL, Java, C++, TypeScript, JavaScript, Rust, Golang, HTML, CSS

Libraries/Frameworks: Flask, Pandas, SciKit-Learn, React, Node.js, Next.js, Redux, Express.js, Electron.js

Developer Tools: Docker, Kafka, AWS, GCP, Git, GitHub, Firebase, Jupyter Notebooks, Bash

EXPERIENCE

Software Developer

Mar. 2023 – Present

McMaster NEUDOSE

Hamilton, ON

- Developed an **Electron** application using **Python**, **TypeScript**, and **React** to reduce time spent manually configuring data shaping parameters by **95%** by enabling real-time visualization of incoming satellite data.
- Reduced the number of **Flask API** endpoints by **50%** by converting to **RESTful** architecture, allowing easier mocking of API endpoints for improved testing and debugging efficiency.
- Created **CI/CD** pipelines using **GitHub Actions** to automate linting, testing, and deploying code.

Software Engineering Intern

May 2022 – Dec. 2022

Malleum

Ottawa, ON

- Deployed a real-time data pipeline built with **Python**, **Kafka**, and **Docker** to identify code vulnerabilities in deployed smart contracts on the Ethereum blockchain, achieving a throughput of **10,000** contracts audited daily.
- Reduced time spent testing and reporting vulnerabilities from **15 to 2 hours** by automating IP address extraction and test execution using **Python** and **Bash** scripts.
- Created a GUI using **React** to facilitate analysis of audit results stored in a data warehouse using **Spark**.
- Designed a cache system using **Redux** to store query results, eliminating **95%** of duplicate API calls.

Software Developer

Nov. 2020 – Feb. 2021

Aceway Auto

Mississauga, ON

- Created an e-commerce website using **TypeScript**, **HTML**, and **CSS** to distribute products to **100+** clients.
- Designed **relational database schemas** for **5000+** products with multiple complex **many-to-many** relationships.
- Developed an **Express.js (Node.js)** API server that reduced inventory update times by **50%** through automating stock adjustments and parsing Excel sheets for batch updates.
- Built a smart filter using **TypeScript** and **SQL** to dynamically build queries based on product relationships.

Software Developer

Jul. 2020 – Sep. 2020

Oakville STARZ

Oakville, ON

- Streamlined website content creation for non-technical administrators by eliminating **100%** of design work by developing a content management system using **Firebase**, **Typescript**, and custom UI components.
- Leveraged **Firebase** Authentication and **Firestore** security rules to protect sensitive user information and access to administrative controls using least privilege principles.
- Improved accessibility across all devices by implementing **7** responsive designs using **flexbox** and **grid** layouts.

PROJECTS

Personal Budget Tracker | TypeScript, React, Next.js, Google APIs

Dec. 2023

- Developed a personal budget tracker to track my monthly spending across different budget categories.
- Integrated **Google Drive and Sheets API** to allow user ownership of personal transaction data.
- Created a dashboard to visualize spending habits using **Next.js** and **Vercel**.

Cito | Express.js, JavaScript, SQLite, JWT

Aug. 2021

- Created a Google Chrome extension using **JavaScript** to monitor products on Shopify store pages based on user-inputted preferences and notify users when desired products are in stock.
- Deployed a license key authentication server from scratch using **SQLite**, **Express.js**, and **JWTs** to handle license key distribution and user sessions.
- Utilized **Postman** for test-driven development of APIs, achieving a 100% API coverage.