

Justin Xue

✉ justin.xue@mail.mcgill.ca

in [linkedin.com/in/justin-xue5](https://www.linkedin.com/in/justin-xue5)

🐙 github.com/shoexue

🌐 justinxue.xyz

EDUCATION

McGill University

Bachelor of Science, Computer Science (GPA: 3.9/4.0)

Expected Graduation: Dec 2027

Montréal, QC

EXPERIENCE

Shopify

May 2025 – Aug 2025

Software Engineer Intern

Toronto, ON

- Improved Shopify's public GraphQL API (**5M+ daily calls**) on the API Foundations team using **Ruby on Rails** and **GraphQL**, enhancing scalability and maintainability across the platform.
- Achieved a **70% reduction in repeat request latency** for custom data schemas, leveraging **SQL caching**, **LRU in-memory caching**, and **memcached** to serve statically-typed GraphQL queries efficiently.
- Developed a **Ruby GraphQL field extension** to auto-generate **globally identifiable fields**, enabling logic migration from the monolithic root and improving backend reliability and scalability by migrating **over 80 core APIs** across the platform.
- Drove Shopify's GraphQL performance initiative by using **StatsD** and **Datadog** to track costly fields, simplify refund logic, and cut per-request latency by **25%**, reducing infrastructure load.

Blackberry QNX

May 2024 – Aug 2024

Software Engineer Intern

Ottawa, ON

- Enhanced **LibC** coverage for the **QNX real-time operating system** by developing **30+ tests** in **C** for functionalities such as **IPC** and **file I/O**, ensuring compliance with safety certification standards required for product release.
- Conducted **over 25 code reviews** to ensure **100%** portability across multiple SDP versions, with comprehensive testing on various platforms such as **AArch64**, **x86**, and embedded systems like **Raspberry Pi** and **BeagleBoard**.
- Reverse-engineered **Jama Software's** internal API to build a **FastAPI** application with **Uvicorn** and integrated a front-end interface to display outstanding review items, automating workflows and improving project planning efficiency by **25%**.
- Gained hands-on experience in **Linux/Unix** environments, developing OS-level code, and automating tasks using **shell scripting** to streamline operations.

EXTRACURRICULARS

Hackthe6ix

Sep 2023 – Present

Web Executive

Remote

- Built the landing site, application platform, and dashboard for **Toronto's largest summer hackathon** using **React**, **Next.js**, **Sass**, and **Cloudflare Pages** with reusable, scalable components, supporting over **3,500+ active users**.
- Reengineered the authentication system by integrating **Keycloak** with a custom **FTL** theme and implemented a **YAML CI/CD pipeline** with **Github Actions** to automate building and pushing **Docker** images to **Quay.io**, securely deploying the service on **Kubernetes** via **Cloudflare Tunnel**.

PROJECTS

AI Music Analyzer 🎵 | *Flask, p5.js, Three.js, Moises, Basic Pitch*

- Developed an AI app for track separation and song analysis at Canada's largest AI hackathon (MAIS Hacks)
- Leveraged AI technology to analyze the waveform of a user-selected song using **Moises API** and implemented an interactable user interface to visualize frequency, pitch, and chord progression
- Produced a **2x award-winning project**, securing the **People's Choice** and **Best Hack for All Arts** awards

Web3 Event Manager 🎟️ | *React, TypeScript, TailwindCSS, Shadcn, Twilio, Starknet, Cairo, Auth0, Netlify*

- Built a Web3 solution for virtual event lineups using **Cairo** smart contracts on **Starknet**, earning **Best Web 3.0 Hack**
- Designed a responsive front-end with **React**, **TailwindCSS**, and **Recharts** using **TypeScript** and deployed on **Netlify**
- Enabled easy participation with **React QR codes**, real-time **Twilio** SMS updates, and implemented auth via **Auth0**

Fridge Friend 🥗 | *React, Flask, PostgreSQL, Supabase, Google Cloud Vision, Cloudflare Workers AI, Auth0*

- Created a virtual fridge to help university students keep track of expiring food items and reduce food waste (Hack Western)
- Built a robust backend using **Flask** and **PostgreSQL**, hosted on **Supabase**, to handle efficient data storage and retrieval
- Integrated **Google Cloud Vision** for OCR to scan and digitize text from food items for accurate inventory updates, and utilized **Cloudflare Workers AI LLM** to generate recipes from soon-to-expire foods.
- Implemented basic user authentication with **Auth0** on a **React** front-end, allowing users to log in securely

Smart Wallpaper Fitter 🖼️ | *Go, Python Pillow, OpenAI, HTML/CSS*

- Developed a web app that resize images for phone backgrounds while preserving quality and aspect ratio with AI
- Handled image processing using **Python Pillow** and image generation using **OpenAI API**
- Built a simple full-stack application using **HTML/CSS** for the front-end and **Go** for the back-end

TECHNICAL SKILLS

Languages: Python, Java, Ruby, Go, C, C++, C#, JavaScript, TypeScript, Bash, OCaml, HTML/CSS

Frameworks and Libraries: React, Rails, Next.js, Node.js, Three.js, Tailwind CSS, GraphQL, Flask, Selenium, FastAPI

Technologies and Tools: Docker, PostgreSQL, Supabase, Google Cloud Vision, Cloudflare Pages, Netlify, Auth0, Figma, Git