

# Justin Xue

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## EDUCATION

### McGill University

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

Expected Graduation: May 2026

*Montreal, QC*

## EXPERIENCE

### Web Executive

Sep 2023 - Present

*Hackthe6ix*

*Remote*

- Developed **React** components from wireframe designs for the Hackthe6ix website using **TypeScript**
- Designed the landing page, user dashboard, marketing materials, and merchandising using **Figma** for Hackthe6ix
- Conducted **UX** research through interviews, card sorting, and A/B testing to derive actionable insights, resulting in enhanced user engagement

### Software Developer

May 2024 – Aug 2024

*QNX Blackberry*

*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 Software Development Platform (SDP) versions, focusing on maintaining high-quality coding practices
- Reverse-engineered **Jama Software** to develop a robust **FastAPI** application with **Uvicorn**, serving as a wrapper for internal API calls
- Incorporated a front-end that displays a list of outstanding review items generated by scraping data from Jama Software, enhancing project planning efficiency by **25%**

### Software Subteam Member

Sep 2022 – Jun 2023

*FIRST Robotics*

*Ottawa, ON*

- Implemented the vision detection system for Apriltags and reflective tape using homography-based pose estimation using **OpenCV-Python**
- Collaborated with over **20** software students using a feature branch Git workflow to deliver a competitive robot

## 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-inputted song and implemented an interactable user interface to visualize frequency, pitch, and chord progression
- Resulted in a **2x award-winning project**, securing the **People's Choice** and **Best Hack for All Arts** awards

### Restaurant Service LLM App 🐍 | *Cohere, Flask, SocketIO, WebSpeech API, Arduino*

- Created a virtual host to streamline restaurant services at **Canada's largest hackathon (Hack the North)**
- Implemented **Flask** app with text-to-speech and speech-to-text functionality using **WebSpeech API** to enable verbal engagement with our custom LLM model powered by **Cohere**
- Utilized an **Arduino** ultrasonic sensor and **SocketIO** to enable real-time interaction with the virtual host

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

- Developed "Phonefix.ai," a web app that uses AI to resize images for phone backgrounds while preserving quality and aspect ratio
- 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

### 2D Roguelike Game 🐍 | *Unity, FL Studio, Photoshop*

- Led a team of 4, delegated tasks, and served as lead presenter, resulting in the team **winning 1st place**
- Implemented game mechanics, collision detection, visual effects, audio, and menu UI

## TECHNICAL SKILLS

**Languages:** Python, Java, Go, C, C++, C#, JavaScript, TypeScript, HTML/CSS

**Frameworks and Libraries:** React, Node.js, Three.js, Tailwind CSS, Flask, Selenium, OpenCV, FastAPI