

Brian Xue

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EDUCATION

University of Waterloo

Honours Bachelor of Mathematics, Co-op

Waterloo, Ontario

Sept. 2026 – Present

Bayview Secondary School

Ontario Secondary School Diploma, Ontario Scholar, Honour Roll 2022–2026

Richmond Hill, Ontario

Sept. 2022 – June 2026

PROJECTS

TeachAssist | *React Native (Expo), TypeScript, Redux*

Jul. 2025 – Present

- Built and published a cross-platform React Native app giving students at 30+ schools access to grades, GPA calculations, and real-time assessment notifications, with all academic data encrypted on device.
- Reverse-engineered undocumented school information system APIs to build authenticated session handling, token refresh, and offline caching resilient to schools running different backend versions.
- Cut average grade refresh latency by ~35% through request caching, lazy loading, and FlatList virtualization, supporting 2,000+ daily active users.
- Grew the app organically to 5,000+ downloads and 4,000+ monthly active users, holding 4.8/5 on Google Play and 4.6/5 on the App Store across monthly production releases.

whitefruit | *Python, yt-dlp, FFmpeg, Windows COM*

2026

- Built a dependency-free Python tool that mirrors YouTube Music, Spotify, and Apple Music playlists to a local library and syncs them into iTunes over Windows COM automation, with both a GUI and scriptable subcommands.
- Designed a tagging pipeline that reads metadata from the source service rather than the downloaded media, and a deduplicator that collapses repeated tracks across playlists into NTFS hard links to one canonical file.

EXPERIENCE

Aquatic Lifeguard & Swim Instructor

City of Richmond Hill

Aug. 2024 – Sep. 2026

Richmond Hill, Ontario

- Supervised pool activities, enforced safety regulations, and responded to emergencies with water rescues and first aid/CPR.
- Instructed swim lessons for children and adults, including one-on-one work with swimmers with special needs.

Junior Technical Officer

EZ-U Construction Inc

Apr. 2025 – June 2026

Richmond Hill, Ontario (Hybrid)

- Designed and launched the company website with Next.js and Vercel, making it the primary inbound channel for client inquiries.
- Developed a backend project-tracking service with Express.js and PostgreSQL, reducing manual processing time on project intake and evaluation by ~25%.

VOLUNTEER EXPERIENCE

Community Event Lead / Volunteer

City of Richmond Hill

Feb. – Oct. 2025

Richmond Hill, Ontario

- Led logistics and supervised booth staff across city-wide public events, delivering educational programming on site.

CERTIFICATIONS

Lifesaving Society: National Lifeguard, Swim & Lifesaving Instructor, Emergency First Aid Instructor – 2025

CPR-C Standard First Aid – February 2026

TECHNICAL SKILLS

Languages: TypeScript/JavaScript, Python, Java, SQL, HTML/CSS

Frameworks: React, React Native, Next.js, Node.js, Express.js

Developer Tools: Git, PostgreSQL, Firebase, Vercel, FFmpeg, App Store & Google Play