

Alex Qin

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EDUCATION

University of Waterloo

Bachelor of Honours Computer Science, GPA: 4.00

Waterloo, ON

2024 - present

EXPERIENCE

Full Stack Developer

May 2025 - Aug. 2025

SparkLease inc.

Toronto, ON

- Developed and optimized web applications across mobile, PC, and Mini-Apps, serving **100,000+** annual users with **Azure**, **ASP.NET Core MVC**, and **JavaScript**
- Engineered a high-efficiency API layer by consolidating redundant requests and implementing response caching in **Azure Blob Storage**, reducing API traffic by 40%+ and cutting service costs by over **\$1,000** annually
- Developed a scalable car search feature with server-side filtering from **Microsoft SQL Server**, implementing lazy loading and optimized queries to reduce filtering time by **53%**
- Developed a daily **Azure WebJob** to pre-filter data and implemented **multithreading** to parallelize processing, reducing runtime filtering and improving listing load time by **83%**, to **within 0.5s**

Full Stack Developer

Sept. 2024 – Dec. 2024

Electrium Mobility

Waterloo, ON

- Designed and implemented a full-stack shopping system using **React**, **Tailwind CSS** and **Next.js**
- Built secure **user authentication** with Supabase to manage login and account access
- Integrated **Supabase** real-time features to enable dynamic product browsing and cart management
- Implemented secure checkout functionality and **automated** post-purchase emails, improving responsiveness and customer engagement

PROJECTS

🌐 WatClub - Full-Stack Club Review App | React, JavaScript, Django, SQLite, Git, Docker, Selenium

- Won **1st** out of 100+ teams in Waterloo CSC Hackathon for developing a club review platform for UW students
- Designed **20+** RESTful APIs with **Django** for JWT authentication, commenting, liking, and tag-based filtering, integrating them into a **React** and Tailwind CSS frontend
- Built a search engine using TF-IDF for relevance and n-grams for fuzzy search, reducing query time to **under 1s**
- Periodically webscrapped 5+ websites using **Python**, **Selenium**, and **BeautifulSoup**

🌐 SoccerMetrix - AI powered Soccer Analyzer | Python, React, OpenCV, Pandas, Flask, OpenAI

- Won **2nd** place out of 70+ teams at GeeseHacks for developing a soccer analysis platform, earning **\$700+** in prizes
- Utilized **Ultralytics YOLOv8** for ball tracking and **MediaPipe GHUM 3D** to extract biomechanical pose metrics
- Used **Pandas** to analyze critical contact frames and OpenCV to overlay skeletal connections and ball trajectories
- Built a full-stack system with **React**, **Flask**, and Tailwind CSS, integrating **OpenAI** to provide feedback

🌐 SEOAgent - Website SEO optimizing AI Agent | FastAPI, Node.js, React, Docker, Python

- Improved website SEO scores by an average of **23%** by integrating self-hosted Lighthouse audits and automated HTML adjustments through a **FastAPI** backend
- Developed an HTML reduction layer that removes non-semantic noise, reducing token size and LLM hallucinations
- Optimized SEO data pipeline, cutting processed data by **60%** through algorithmic extraction of key fields from Lighthouse JSON results
- Containerized a multi-service stack (Python API, Lighthouse Node service) with **Docker** Compose

TECHNICAL SKILLS

Languages: C#, C, C++, Python, TypeScript, SQL, Java, JavaScript, HTML, CSS,

Frameworks/Libraries: React, ASP.NET, FastAPI, Django, OpenCV, Node.js, Tailwind CSS, Tensorflow

Developer Tools: Azure, Git, Shell Scripting, Docker

AWARDS

- Ranked **top 500** in the Canadian Computing Competition in Canada
- Ranked **top 5%** AMC 12 Mathematics Competition with over 50,000 participants, qualifying for AIME
- Ranked **top 10%** global ranking in LeetCode contests