

# Andrew Qiao

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## EDUCATION

### University of Waterloo

*Bachelor of Computer Science*

Waterloo, ON

*Sept. 2022 – May 2026*

- GPA: 3.9
- Courses: Data Structures and Algorithms, Object-Oriented Programming, Linear Algebra, Calculus, Probability

## SKILLS

**Languages:** JavaScript, TypeScript, Python, SQL, C++, C, HTML, CSS

**Libraries/Frameworks:** React.js, Next.js, React Native, Django, Flask, Node.js, LangChain, Tailwind CSS

**Databases/Cloud:** PostgreSQL, SQL Server, MongoDB, Redis, Vercel, Google Cloud, AWS, Firebase, Upstash

## EXPERIENCE

### IBM

Jan. 2024 – Present

*Software Developer Intern*

*Toronto, ON*

- Architected a generative AI application for code explanation and test-case generation on **12M+ lines of code** for **100+ developers** using Amazon Web Services (AWS), React.js, and IBM's WatsonX AI platform
- Increased code explanation accuracy from **30% to 90%** by implementing retrieval-augmented generation (RAG) using LangChain, a FAISS vector database, Python, and the Mixtral 8x7B LLM
- Engineered a rules-based anomaly detection system to verify **\$10B+** in insurance claims using Python and SQL
- Developed a UI library composed of **40+** primitive components to accelerate proof-of-concept (POC) design and development by **200%** using Next.js, React.js, and TypeScript

### University Health Network

Oct. 2023 – Dec. 2023

*Software Developer Intern*

*Toronto, ON*

- Deployed an app integrated with GPT-4V to evaluate AI's effectiveness in diagnosing **100+** medical conditions using Next.js, React.js, and Google Cloud
- Assisted **8 clinicians** at Canada's largest research hospital in assessing AI's applicability for clinical care and education, contributing to published medical research [↗](#)

### TD Asset Management

May 2023 – Aug. 2023

*Software Developer Intern*

*Toronto, ON*

- Saved Portfolio Managers **10+ hours a week** in waiting on synchronous tasks by developing a distributed system to defer lengthy portfolio model recalculations using Celery and Python
- Removed **5+ hours a week** of data entry by automating financial report generation with Django and SQL
- Reduced tool loading speed by **67%**, removing unnecessary API calls and adhering to React.js best practices
- Fixed **20+ bugs** by implementing thorough testing frameworks using the Python unittest library

### University of Toronto

Oct. 2022 – Apr. 2023

*Research Developer Intern*

*Toronto, ON*

- Contributed to a **university-partnered study with OpenAI** [↗](#) on AI alignment in the workplace under the supervision of Dr. M. Andiappan [↗](#) and Dr. G. Hadfield [↗](#)
- Streamlined data collection for the study's **500+ participants** by deploying an AI-powered survey platform built with React.js, Next.js, OpenAI API, Google Cloud, and Firebase

## PROJECTS

### RE/MAX Pre-Construction App [↗](#) | *React.js, Node.js, Redis, Google Cloud, Upstash*

Apr. 2023 – Present

- Developed a real estate application to optimize property marketing for **240+** RE/MAX agents
- Integrated a Sanity CMS for **1B+** worth of listings, decreasing content upload and edit time by **50%**
- Aided **100+ clients** in finding their dream home by querying APIs and CMS to display listings in an intuitive UI

### Pethsapp [↗](#) | *Flutter, Dart, Firebase, Google Cloud*

Jun. 2021 – Present

- Led **team of 5** in developing my former high school's mobile app, used by **1200+** students, staff, and parents
- Reached **Top 15 on the Apple App Store Education Chart**