Amanda Xi

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Education

University of Waterloo
Bachelor of Computer Science — *Waterloo, Ontario*
- **GPA:** 94.67% overall, 94.83% faculty average (Math + CS Courses), Ted Rogers Future Leaders Scholarship
- **Involvement:** UW Blueprint Software Developer, WARG Autonomy Developer, Cheese Club President

Technical Skills

Languages: TypeScript, JavaScript, Python, C, C++, Java, SQL, R
Frameworks & Libraries: React, Next.js, Node.js, Tensorflow, NumPy, OpenCV, GraphQL, Flask, FastAPI
Databases & Infra: MySQL, MongoDB, Prisma, Docker, Kubernetes, AWS, Azure
Tools: Git, Linux, Nginx, Vercel, Figma, Expo (React Native)

Experience

Oak Ridges Heart Clinic
May 2025 – Dec 2025
Software Engineer — *Oak Ridges, Ontario*
- Engineered an AI-assisted **clinical scribe** in Python that transcribed consultation audio and **auto-populated EMR forms** via Selenium with clinician-in-the-loop review, reducing administrative task latency by **85%**.
- Architected a **scalable full-stack portal** (Next.js, Flask, MySQL) serving **1,000+ patients**, and designed a unified **RESTful API** to synchronize real-time health data across web and **React Native** mobile platforms.
- Developed a **computer vision pipeline** using a **fine-tuned ResNet-50** and monocular depth estimation to synthesize 3D point clouds from 2D food images, enabling automated portion-size nutritional analysis.
- Implemented containerized **CI/CD workflows** with **Docker** and **Nginx**, reducing deployment time by 40%

Develop at Ubisoft
October 2025 – current
Mentorship — *Toronto, Ontario*
- Implemented performance-critical runtime systems in C++, applying **object pooling** and explicit **lifecycle management** to reduce allocation overhead in a gameplay project under senior engineer mentorship.
- Built reusable **scene and state management systems** to coordinate ownership, transitions, and resource loading, using profiling and debugging tools to improve stability and maintainability.

Projects

Mosaic | *Next.js, TypeScript, FastAPI, LiteLLM, Tailwind CSS* — github.com/amanduhhhh/mosaic
- Engineered an AI data visualization platform where interfaces are generated by **user interaction** instead of prompts.
- Implemented a custom rendering pipeline for **progressive component hydration** and real-time **theme synchronization** using React state and Tailwind.

LeCrochet | *Next.js, TypeScript, Three.js, Tailwind CSS, Supabase* — lecrochet.online
- Architected a crochet domain-specific language (CrocheTeX) and **live-compiler** that transforms crochet patterns into **2D SVG** and **3D Three.js** visualizations; scaled to **1,000+** early-access users through iterative feature deployments.
- Developed an IDE-like editor with instant **state synchronization**, allowing makers to visualize 3D stitches in real-time

Bargain Bites | *Next.js, TypeScript, MongoDB, Gemini API, Selenium* — bargainbites-gamma.vercel.app
- Engineered an automated data pipeline that scrapes Canadian grocery flyers via **Selenium** and utilizes Gemini to generate **optimized 7-day meal plans** based on real-time pricing
- Implemented a **NoSQL** storage layer with **Prisma** to handle user preference objects (diet, budget, equipment).

Refyne | *React, TypeScript, Flask, Python, OpenCV* — dorahacks.io/buidl/21723
- Spearheaded development of an **AI-powered** behavioral interview training app with personalized insights.
- Built a dynamic **React** frontend connected to a **Flask** backend leveraging **OpenCV** to analyze facial expressions and body language, as well as video quality factors such as lighting, focus, and background.

Awards / Distinctions

- **Governor General's Academic Medal**: **Highest grade 11/12 average** in Richmond Hill High School class of 2024
- **TMU CanHack First Place:** CTF competition involving binary exploitation, reverse engineering, and SQL injection.
- Distinction in Waterloo **Euclid, CSMC, CCC Sr/Jr** contests; Honour Roll **Group V in Cayley**