Amanda Xi

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Education

University of Waterloo **Sep 2024 – Apr 2029**
Bachelor of Computer Science *Waterloo, Ontario*

- 4.0 GPA, Ted Rogers Future Leaders Scholarship Recipient, Cheese Club President

Technical Skills

Languages: Java, Python, JavaScript, Typescript, HTML, CSS, SQL, R, C, C++
Frameworks: React, Kubernetes, AWS, Node.js, Docker, MySQL, Flask, Tensorflow, Tailwind, Prisma, GraphQL
Tools: Linux, Git, Nginx, Three.js, OpenCV, Adobe Suite (Photoshop, Illustrate, Premiere Pro), Figma

Experience

Oak Ridges Heart Clinic **May 2025 – Dec 2025**
Software Engineer *Oak Ridges, Ontario*

- Architected and deployed a full stack patient portal (**Next.js** frontend, **Flask** backend, **MySQL**), with **RESTful APIs** and cross-platform **React Native/Expo** mobile support, serving **1,000+ patients** with secure, real-time access.
- Researched and developed food volume estimation techniques under the guidance of **Dr. Vijay Mago**, leveraging **LiDAR technology**, depth estimation, and segmentation to generate point cloud–based volume measurements.
- Automated **CI/CD** pipelines using **Docker** and **Nginx** on **Azure VM** within an **Agile development workflow**, enabling continuous integration for 5 microservices and reducing deployment time by **40%**
- Integrated EMR data transfer via HL7 protocols and developed analytics dashboards for calorie tracking and community insights, resulting in a **56%** increase in patient engagement.

Develop at Ubisoft **October 2025 – current**
Mentorship *Toronto, Ontario*

- Developed a **C++** project under the mentorship of Ubisoft programmers, applying **industry-standard practices** in performance optimization, architecture, and debugging.
- Designed core gameplay systems including **pathfinding algorithms**, **Perlin noise–based** terrain generation, and **state-machine–driven** enemy behavior.

Projects

Bargain Bites | *Next.js, TypeScript, MongoDB, Gemini API, Selenium* bargainbites-gamma.vercel.app

- Built a full stack web app that scrapes Canadian grocery flyers with **Selenium** and generates optimized 7-day meal plans using **Gemini**, minimizing cost through ingredient reuse and price-sensitive recipe selection.
- Implemented a customizable preference system (budget, dietary restrictions, household size, equipment) with persistent plan, recipe, and grocery list storage in **MongoDB** via Prisma.

LeCrochet | *Next.js, TypeScript, Three.js, Tailwind, Supabase, NextAuth.js* lecrochet.online

- Engineered **CrocheTeX**, a lightweight domain-specific language for crochet patterns, compiled live in a custom IDE-like editor with instant 2D (SVG) and 3D (**Three.js + React Three Fiber**) visualization of complex stitches.
- Enabled secure user login via **Google OAuth**, supporting pattern download and community sharing.
- Attracted **1000+ early-access users** during development, validating demand and guiding improvements with feedback

Refyne | *React, TypeScript, Flask, Python, OpenCV* dorahacks.io/buidl/21723

- Spearheaded development of an **AI-powered** behavioral interview training app during UofTHacks 12 (36-hour hackathon), enabling users to receive detailed feedback on practice interviews.
- 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.

Huffman Compression System | *Java* github.com/amanduhhhh/HuffComp

- Built a file compression program in Java using Huffman **frequency encoding** to achieve efficient data size reduction.
- Crafted custom **data structures** (binary trees, priority queues, linked lists) and leveraged **OOP** to optimize encoding.

Awards / Distinctions

- **Governor General's Academic Medal**: **Highest grade 11/12 average** in Richmond Hill High School class of 2024
- **TMU CanHack First Place School:** Completed **CTF** style challenges using **HTML** and **PostgreSQL**