

# Ruoxi (Catherine) Wu

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## Education

University of Waterloo | Bachelor of Computer Science

September 2020 - April 2025

- Honours Co-op Program; Graduated with Distinction; Recipient of President's Scholarship of Distinction, President's Research Award, and President's International Experience Award
- Relevant Coursework
  - **Discrete Mathematics:** Logic and Computation (SE212), Combinatorics (MATH239)
  - **Programming Fundamentals:** Programming Principles (CS137), Data Abstraction and Implementation (CS138)
  - **Data structures:** Data Structures and Data Management (CS240)
  - **Algorithms and Complexity:** Algorithms (CS341)
  - **Computer Organization and Architecture:** Digital Computers (ECE222)
  - **Principles of Computer Systems:** Operating Systems (SE350), Computer Networks (CS456)
  - **Additional Computer Science Coursework:** Data-Intensive Distributed Computing (CS451), Introduction to Artificial Intelligence (CS486), Numerical Computation (CS370), User Interfaces (CS349), Human-Computer Interaction (CS449)

## Technical Skills

### Programming Languages

C, C++, Ruby, Java, JavaScript/TypeScript, Go, Kotlin, Python, Assembly

### Frameworks and Tools

Bash, Git, MongoDB, SQL, Node.js, React.js, Vue.js, Express.js, Django, AWS

## Work Experience

Microsoft | Windows + Devices

September 2025 - Present

Software Engineer

Vancouver, British Columbia, Canada

- Improved runtime performance and responsiveness in the software by fixing bugs and optimizing **XAML templates** and **C++ implementations** across UI and core logic paths.
- Delivered accessibility enhancements for **tooltips**, **narrator**, and **keyboard navigation**, improving usability for keyboard and assistive-technology users.
- Analyzed crash reports and reliability issues, and addressed customer feedback signals through prioritization and fixes.
- Contributing to new feature development and system improvements in Windows File Explorer (**details under NDA**).

Microsoft | Windows + Devices

May 2024 - July 2024 & May 2023 - August 2023

Software Engineer Intern

Redmond, Washington, US

- Contributed to the design and implemented multiple **home page widgets** in Settings, with **2 features selected and fully rolled out** to retail Windows machines, contributing to improved user engagement.
- Prototyped a new search result UI in File Explorer to surface richer file metadata, coding the frontend logic with **C++ & C#** and following the **MVVM design pattern** to ensure maintainability and separation of concerns.

StackAdapt | Billing Platform

January 2024 - April 2024

Fullstack Engineer Intern

Toronto, Ontario, Canada

- Enhanced the Billing Platform for both client and account admin interfaces by developing **Ruby on Rails** backend solutions with fintech services such as **Stripe**, **Sage Intacct**, and **HighRadius**.
- Executed a data migration and backfill for **over 1 million invoices**, optimizing the backend **GraphQL** query and updating the frontend using **React.js** and **Redux** to implement an advanced invoice filtering feature tailored for net term customers.
- To optimize engineering workflows, updated the database's automation process using **Shell scripts** to sanitize client information and expanded the database snapshot tool with **Ruby** by integrating billing-related tables.

Morgan Stanley | Wealth Management Technology

September 2022 - December 2022

Technology Analyst Intern

Calgary, Alberta, Canada

- Worked with a large-scale equity management software with **Java Enterprise Edition** and **Oracle SQL Database**.
- Conducted **integration tests in Java** and utilized **agile scrum methods** to deliver high-quality code commits.

eBay | Engineering Ecosystem & Experience

December 2021 - March 2022

Software Engineer Intern

Shanghai, China

- Implemented an open-source directed acyclic graph visualization library with **TypeScript**. The library has been used in **3 internal projects** and **has shortened more than 70%** of the code for rendering flow charts and tree-structured graphs. [🔗](#)
- Led the development of a new CD pipeline editor frontend in **eBay cloud console** supporting advanced features such as adding parallel tasks and node drag and drop with **React.js** and **Redux**.

Fullstack Engineer Intern

Remote

- Coded two web pages in a full stack customer relationship management application **showcased to 1000+ potential investors** on MiraclePlus Demo Day with **Vue.js** (frontend) and **Express.js** (RESTful API server).
- Built, deployed, and continuously maintained a **responsive server-side rendering** official website displaying product highlights and providing a chat widget using **React.js**, **Amazon EC2**, and **Nginx**. [🔗](#)

Xiaomi Technology

May 2021 – August 2021

Android Engineer Intern | MIUI Mobile Operating System

Nanjing, Jiangsu, China

- Developed **3 new features** (a new page for front-camera-related settings, toggle logic improvement, and refresh rate settings improvement), which have been shipped to approximately **80 million users globally**.
- Resolved over 50 native Android issues in Xiaomi mobile system apps, including functionality across searching, accessibility, layouts, and stability, and significantly reducing Android Monkey crashes and Application Not Responding errors.

Research Experience

Berkeley Function-Calling Leaderboard | LLM Benchmark @ Sky Computing Lab

May 2025 - June 2025

Open-Source Contributor & Co-author of BFCL v4

Remote

- **Integrated latest LLMs** into the benchmark, supporting both **API-based** and **locally hosted models**, and enabling consistent evaluation across diverse model backends. Further improved readability and maintainability of the research codebase through bug fixes and code refactoring. [🔗](#)
- Designed and implemented **26 prompt variation configurations** by parameterizing key dimensions such as return syntax, function documentation formats, tool tags, prompt presentation styles, and instruction wordings in prompt, enabling precise analysis of model performance sensitivity to input formats. [🔗](#)

VRGimbal | WebXR Research Project @ WVisdom Lab [🔗](#)

October 2023 - March 2024

Undergraduate Research Assistant

Waterloo, Ontario, Canada

- Engineered a 1-to-many VR streaming platform that allows the presenter to capture 2D streams from different camera placements, angles, and movements, leveraging technologies such as **WebRTC (Peer.js)**, **Three.js**, and **Firestore Database** for immersive real-time interactions.

Side Projects

Hana Korean | AI-Powered Language Learning Platform [🔗](#)

February 2026 - Present

- Vibe-coded an AI-assisted Korean vocabulary learning **React.js** app in **Google AI studio**, leveraging **Gemini 2.5 Flash API** for **multi-modal language interaction**, integrating text-to-speech, speech-to-text, and handwriting recognition to support self-directed learning.

KTV @ Home | AI-Integrated Media Processing Solution [🔗](#)

May 2025

- Designed a fullstack web system combining a **Next.js** frontend for audio playback and lyrics UI, and a **Python FastAPI** backend AI vocal-removal pipeline (music source separation) to successfully host an at-home karaoke event.

KWCSSA Voting System | Fullstack Application for Live Events [🔗](#)

October 2022

- Architected and deployed a scalable **MERN-stack** application with **Amazon ECS** and **Amplify** and supported concurrent **200+** audience voting for their favourite performances in a student-hosted talent show.