Yanzhen Chen

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EDUCATION

University of Toronto — Toronto, ON
Honors Bachelor of Science in Computer Science with Mathematics and Statistics Minors — *September 2023 - May 2027*
Relevant Coursework: Software Tools and Systems Programming, Intro to Machine Learning, Software Design

EXPERIENCE

Educational Technology & UX Developer Intern — May 2025 – Present
University of Toronto Engineering Career Centre — *Toronto, ON*
- Developed digital learning platforms and UX improvements for the PEY Co-op Hub, increasing student content engagement by **25%** through enhanced navigation and accessibility.
- Designed and implemented a structured process for Quercus shell creation, reducing setup time by **70%** and identifying key inefficiencies in existing workflows.
- Established a reliable backup system for 10+ preparatory and co-op program shells, streamlining instructor workflows and reducing content recovery time by **90%** despite automation limitations in Canvas.

Full Stack Infrastructure Developer — June 2025 – Present
University of Toronto Machine Intelligence Team — *Toronto, ON*
- Developed and deployed responsive UI components and backend APIs, reducing load time by **30%** and improving usability for **500+** monthly users.
- Built and integrated an observability-focused admin dashboard, enabling real-time performance tracking and issue detection.
- Wrote and maintained internal documentation for both frontend components and backend API usage to ensure long-term maintainability and team onboarding.

PROJECTS

Resume Management Web App | *Next.js, Typescript, Tailwind, Supabase* | **Link** ⬈ — May 2025
- Built a student dashboard with secure PDF resume uploads and private storage using **Supabase** Storage and Row-Level Security, with embeddable signed-URL viewers.
- Optimized performance for over 350 unique users by caching signed URLs client-side for 60 seconds and modularizing React components for easy extension.

Toronto Explorer Game | *Next.js, TypeScript, Tailwind, Firebase, Google Maps Api* | **Link** ⬈ April 2025 - May 2025
- Developed a fully responsive geolocation game using **Next.js** and **Google Street View**, allowing users to guess randomized real-world locations within **Toronto** using an interactive map interface.
- Generated and validated over **2,000+** playable Street View locations across Toronto using **Firestore** and the **Google Maps API**.
- Designed modular architecture to support rapid expansion to other cities with minimal code duplication.
- Optimized performance and minimized API costs via strategic caching and coordinate validation using Firebase Firestore.

Gyroscopic Phone Authenticator | *Next.js, React Native, Expo, Tailwind, Firebase* | **Link** ⬈ — January 2025
- Pioneered a cross-platform authentication flow using a gyroscope-based phone tilt mechanism.
- Bridged a **Next.js** web interface with a **React Native** mobile app using real-time data transmission via Firebase.

LEADERSHIP EXPERIENCE

Vice President of External Relations — May 2024 – Present
Computer Science Student Union — *Toronto, ON*
- Secured **$9,000** in sponsorships by establishing and collaborations with **four** companies.
- Enhanced professional development opportunities and increased union event attendance by **30%** through organizing an information session and a resume review panel, each attended by over **50** students.
- Organized a career fair featuring **four** companies with **300** student attendees, facilitating valuable networking and recruitment opportunities.

TECHNICAL SKILLS

Languages: Python, TypeScript, Javascript, C, Java, HTML/CSS, PostgreSQL, MySQL, R
Web & Mobile Frameworks: Next.js, Node.js, Express, Expo, React Native, Tailwind
Libraries & Packages: React.js, Pandas, NumPy, Matplotlib, PyTorch, Scikit-learn, Flask
Developer Tools: MongoDB, Firebase, Supabase, Google Colab, Jupyter Notebooks