Annie Cai

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Education

University of Waterloo   *Waterloo, ON*
B.ASc in Systems Design Engineering - GPA: 4.00/4.00, 95%   *2022 - 2027*

- *Awards*: 2x Term Dean's List, Faculty of Engineering Entrance Scholarship ($8000), President's Distinction ($2000)
- *Involvement*: UW Blueprint, UW Tech+, UW Product Management, Women in Engineering

Skills

Languages: Python, Typescript/Javascript, C++, Java, SQL, GraphQL
Technologies: React, Node.js, Next.js, Express.js, Flask, Django, Vue
Tools: Git, PostgreSQL, MySQL, Docker, Kubernetes, Redis, Openshift, Azure

Work Experience

Royal Bank of Canada 🔗   *Toronto, ON*
Software Engineer Intern   *Sep. 2023 - Present*

- Architected efficient data ingestion scripts in **Python** to automate the process of importing large data sets, **analyzing 10,000+ more data points** and **reducing processing time by 74%**.
- Scaled database retrieval job during high load periods using **Redis** and **Python**, leveraging resource tuning and caching strategies to **lower job time from 2 minutes to a few seconds**
- Implemented aggregated metric widgets and graphs in the product's dashboard using **Vue (Typescript)** and **REST**, surfacing more actionable insights to users

Home Trust Company 🔗   *Toronto, ON*
Software Developer Intern   *Jan. 2023 - Apr. 2023*

- Transfered **over a million** rows of data from **Azure Blob Storage** to **Azure SQL** by architecting end-to-end ETL pipeline
- Increased **deployment efficiency by 50%** by creating **CD** pipeline scripts in **Azure DevOps**
- Contributed to a new summary widget for the Home Digital app using **Angular**, offering **2000+ users** a centralized view of their banking data

Community & Leadership

UW Blueprint 🔗   *2023 - Present*
Project Developer

- Developing a new suite of recruitment tools to enable a more efficient and effortless recruitment process, projected to **impact over 100 members and 300 applicants**
- Leveraged **GraphQL** and **React** to build a multi-faceted analytics dashboard, enabling data-driven targeted outreach
- Overhauled the **PostgreSQL** database schema and used **GraphQL resolvers** to fetch candidate information efficiently, **reducing database query time by 60%**

UW Tech+ 🔗   *2022 - Present*
Front-end Tech Lead, Previously Fullstack Developer

- Spearheaded the implementation of a modular front-end architecture for the Mentor-Mentee portal using **React**
- Accomplished a **30% reduction** in development time by creating a centralized UI component library for code reusability
- Orchestrated user-centered design initiatives, collaborating with designers to craft appealing and intuitive interfaces

Projects

Apollo 🔗   *Python, NumPy, Pandas*

- Trained an ML model to utilize computer vision to determine early markers of cerebral palsy using the HINE evaluation
- Extracted over **10,000 data points** using OpenCV and Mediapipe, processed via NumPy and Pandas

Sign:Here 🔗   *React, Flask, Cohere, Qdrant*

- Built a natural language chat-bot that takes legal documents as context and answers questions regarding the documents
- Optimized **response accuracy by 80%** by utilizing semantic search, vector similarity search, and context injection