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*: 3x Term Dean's List, Faculty of Engineering Scholarship, President's Distinction
- *Relevant Courses*: Data Structures, Algorithms, Computer Networks, Digital Systems, AI

Skills

Languages: Python, TypeScript, JavaScript, C++, SQL, GraphQL, HTML/CSS
Technologies: React, Flask, Node.js, Next.js, Express.js, Vue.js, Django
Tools: Git, PostgreSQL, AWS, Kubernetes, Docker, Redis, Pinecone, LangChain, Snowflake, CircleCI

Work Experience

Newfront 🔗 *San Francisco, CA*
Software Engineer Intern *May. 2024 - Aug. 2024*

- Enhanced system responsiveness by optimizing **Python** code with asyncio for high-concurrency
- Improved user interaction speeds by developing a real-time **Websockets** messaging system to support instant bidirectional communication for **10000+ users**
- Streamlined data collection for more reliable user feedback analysis. Engineered an analytics dashboard utilizing cross-table **SQL** queries to **Snowflake** to enhance accessibility to **over 300 feedback events**
- Proposed and led text chunking and hybrid search experimentations in **Pinecone** and **LangChain**, resulting in **11% reduction** in query response times and improved information retrieval accuracy

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

- Architected an ETL pipeline in **Python** and **Django** to extract and serialize **100,000+ data points**
- Achieved a **40% cost reduction** in storage expenses by **migrating 8GB+** of data to **AWS S3 buckets**
- Scaled database retrieval job during high load periods using **Redis** and **Python**, leveraging resource tuning and caching strategies to **lower job time from 5 minutes to a few seconds**
- Built full-stack aggregated metric widgets and graphs using **Vue.js**, **Typescript**, and **RESTful APIs**, facilitating quicker, data- driven decision-making

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

- Transferred **over a million** rows of client banking data from **Azure Blob Storage** to **Azure SQL** by architecting an end-to-end ETL pipeline, utilized parallel processing to achieve **63% faster data migration** while ensuring data consistency
- Optimized the software release process by engineering **CI/CD pipeline** scripts

Projects

UW Blueprint 🔗
Leading a cross-functional team of 9 designers and developers to build a pet volunteering platform for a nonprofit, serving 2000+ users. Previously developed a recruitment tool using React, GraphQL, and Express.js. Automated a 2 hour manual process by developing a recruiter-candidate matching algorithm.

Cafe Management System 🔗
Full-stack management system with CRUD operations for managing categories, products, bills, and staff using Angular and Spring Boot. Developed custom JWT authentication logic to ensure secure and efficient sign-in processes.