

Annie Cai

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Skills

Languages: Python, TypeScript, JavaScript, C++, Java, SQL, GraphQL, HTML/CSS

Technologies: React, Vue.js, Django, Node.js, Next.js, Express.js, Flask, Spring

Tools: Git, PostgreSQL, MySQL, MongoDB, Docker, Kubernetes, Redis, Openshift, AWS EC2/S3, Jest

Work Experience

Royal Bank of Canada 🔗

SOFTWARE ENGINEER INTERN

Toronto, ON

Sep. 2023 - Dec. 2023

- Architected an ETL pipeline in **Python** to extract and serialize **100,000+ data points** from a JSON response to MySQL
- Achieved a **40% cost reduction** in storage expenses by **migrating 8GB+** of PCAP 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 for threat hunters

Home Trust Company 🔗

SOFTWARE DEVELOPER INTERN

Toronto, ON

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
- Integrated unit and e2e tests using **Jasmine** in **Azure DevOps**, leading to a **16% reduction in bugs** in production
- Cut down deployment times by half and streamlined the software release process by engineering **CI/CD pipeline** scripts

Community & Leadership

UW Blueprint 🔗

PROJECT LEAD, PREV. PROJECT DEVELOPER

2023 - Present

- Leading a cross-functional team of 8 designers and developers to build a recruitment platform using **React**, **GraphQL**, **Firestore** and **Express.js**, improving the recruitment process for over 20 recruiters
- Overhauled the **PostgreSQL** database schema, optimizing data storage and retrieval efficiency
- **Automated a 2 hour manual process** by developing a recruiter-candidate matching algorithm in **TypeScript**

Projects

Spotifeel 🔗

React, Flask, scikit-learn

- Designed and developed a dynamic Spotify playlist generator based on audio-based emotion recognition
- Trained scikit-learn neural network using the RAVDESS data set and leveraged data augmentation and feature engineering to achieve **94.77% accuracy** in recognizing sentiment

Apollo 🔗

Python, scikit-learn, Mediapipe

- Trained scikit-learn ridge classifier to utilize computer vision to determine early markers of cerebral palsy
- Extracted over **8,000 data points** from test images using OpenCV and Mediapipe, processed via NumPy and Pandas

Cafe Management Sytem 🔗

Angular, Java, Spring, Docker

- Built a full-stack management system with **CRUD operations** for managing categories, products, bills, and staff
- Accomplished a secure and efficient sign-in process by implementing JWT authentication and integrating Spring Mailer for password recovery and user verification

Education

University of Waterloo

B.ASC IN SYSTEMS DESIGN ENGINEERING - GPA: 3.99/4.00, 95%

Waterloo, ON

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
- **Courses:** Data Structure and Algorithms, Stanford's Supervised/Unsupervised Learning and Advanced Learning Algorithms