

# Daniel Zhang

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## Experience

### Full Stack Developer (Work Learning Experience)

Oct. 2023 – Nov. 2023

#### Service Delivery Data Hub Project

Toronto, ON

- Created E2E tests with **Cypress and JavaScript** to validate dataset upload and management functionality
- Identified testing challenges and proposed strategies to mitigate risks and enhance the testing process

### Software Developer Intern

Jan. 2022 – Aug. 2022

#### Caseware International

Toronto, ON

- Developed a **Java + Spring Boot routing microservice** to automate and replace a manual reverse proxy
- Reduced average response times of microservice to under 50ms using **AWS DynamoDB and ElastiCache Redis**
- Enhanced a multi-threaded file upload process in **C++**, reducing API calls by 20% and upload times by over 100ms

### Full Stack Developer Intern

May 2021 – Aug. 2021

#### Skatescribe Corporation

Markham, ON

- Designed a **communication system** using **Angular, Python, Flask, and Socket.IO** to improve system transparency through real-time status updates
- Created an **automated tool life tracker** with real-time updates and alerts using **Python, Flask and PostgreSQL**, eliminating manual management
- Improved product satisfaction by leveraging **Pandas and NumPy** for data manipulation and feature development

## Projects

### Ecosquad

- Developed a web app for citizen scientists to record environmental observations using **React, TailwindCSS, and TypeScript** for the frontend, with **ExpressJS and PostgreSQL** for the backend
- Streamlined authentication and authorization with **Auth0**, boosting security and user experience
- Enhanced search performance with Meilisearch, reducing query times by 70% and improving accuracy
- Deployed the app with **Docker** on Digital Ocean, ensuring scalability and reliability

### Zoomer

- Engineered a scalable backend microservice architecture for a ride-sharing application in **Java and Maven**
- Integrated **PostgreSQL** within the User Microservice to efficiently handle user accounts
- Leveraged **MongoDB** in the TripInfo Microservice for managing trip data and driver pairing
- Utilized **Neo4J** in the Location Microservice to optimize driver proximity and route planning algorithms

### Pintos

- Enhanced kernel efficiency by optimizing multithreading in **C**
- Enhanced thread management and processor use with advanced priority scheduling and donation
- Created a multilevel feedback queue scheduler to optimize thread management and reduce response times

## Education

### University of Toronto

Sept. 2019 – June 2024

#### Honours Bachelor of Science in Computer Science

CGPA: 3.47 / 4.0

## Technical Skills

**Languages:** Java, Python, C/C++, SQL (PostgreSQL), NoSQL (MongoDB), JavaScript, Typescript, HTML/CSS

**Frameworks & Libraries:** React, Node.js, ExpressJS, Flask

**Tools and Technologies:** Git, Docker, Linux/Unix, JIRA, Postman