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# Ziyi Xu

## Electrical & Computer Engineering

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### SKILLS

<b>Programming</b>	Java, Python, JavaScript/TypeScript, C/C++, SQL, Linux OS
<b>Tech Stack</b>	React, Angular, Vue, Tailwind CSS, Material UI, SpringBoot, Spring Data JPA, JUnit, JDBC, Axios, HTML
<b>Technologies</b>	AWS, Git, Docker, PostgreSQL, MySQL, Redis, MongoDB
<b>Dev Tools</b>	Jira(Kanban), Postman, Visual Studio, IntelliJ IDEA, Eclipse, Notepad++, AutoCAD

### EXPERIENCE

#### AI Trainer / Outlier

Apr 2024 — Present

Part-time Outlier's Language Writing Projects

Remote, Canada

- Conducted quality assurance to evaluate prompt-response pairs for quality and relevance.
- Analyzed AI-generated responses and rated each element for adherence to instructions.
- Provided detailed comments on response quality to highlight key points for future improvement of AI models.

#### Assistant Software Developer / Google

Jun 2022 — July 2022

Part-time Intern - Rewards System

Remote, Canada

- Enhanced the Rewards System within a backend management project using **Java**.
- Integrated **Redis** to improve data retrieval speed by 70% and reduce database access load by 50%.
- Improved system reliability with a Bloom filter to reduce cache penetration risk (FPR < 3%).
- Implemented a distributed lock to mitigate the risk of cache breakdown by 95%.

#### Software Developer / Mac RoboMaster

Sept 2020 — Sept 2021

Robotic Computer Vision Project

McMaster University, ON

- Developed functionalities for color and number recognition on armor plates using **Python**.
- Boosted image recognition accuracy by 85% using advanced computer vision algorithms and **OpenCV**.

### PROJECTS

#### Full Stack Developer / Epic Eats

May 2023 — Present

Content Management System and Client Ordering Website

Toronto, ON

- Developed responsive restaurant and content management system interfaces using **React.js** and **Material UI**.
- Implemented and optimized APIs with **Java SpringBoot** to efficiently process business logic.
- Deployed backend services on **AWS** to handle high-traffic demands and support scalability.
- Leveraged **PostgreSQL** within **Docker** containers for persistent storage and deployed it on **AWS RDS**.
- Built and pushed **Docker** images to **Docker Hub**, using Amazon **ECS** to pull images to EC2 instances and run containers.
- Conducted regular client feedback sessions to continuously enhance services and website functionality.
- Tools Used:** Java, JavaScript, PostgreSQL, SpringBoot, Spring Data JPA, React, MUI, Docker, AWS (RDS, S3, EC2, ECS, EB), Git

#### Full Stack Developer / Tripedia

Jan 2022 — April 2022

Agile Tour Website | Received A+ (90/100)

University of Waterloo, ON

- Developed a full-stack **RESTful** tour web application using **Java SpringBoot** framework and **React.js**.
- Integrated **Amazon RDS** as persistent storage for secure data management of user data and files.
- Developed Spring Data **JPA** to achieve Data Access Object (DAO) with customized queries.
- Leveraged **Axios** to handle asynchronous requests and **Google Map API** to embed a world map into the web page.
- Led unit testing with **JUnit5** in DAO and integrated **SonarQube** into the CICD pipeline to scan code coverage (85%).
- Deployed the project on **AWS EC2** cluster managed by the customized load balancer.
- Tools Used:** Java, JavaScript, SQL, SpringBoot, React, Material UI, AWS (RDS, S3, EC2), Git, Kanban, PowerPoint

### COMPETITIONS & ACCOMPLISHMENTS

- 2nd Place**, McMaster Engineering Competition 2020: Developed a COVID-19 Tracker against 69 teams.
- 1st Place**, Canadian University Chess Championship 2020 (Under 1800 Section).
- Top 16**, Sumobot Competition 2018: Developed a 10x10cm autonomous robot against 64 teams.
- Participation Award**, RoboMaster 2021 Robotics Competition: Represented McMaster University in the competition.

### EDUCATION

**Master of Engineering - Electrical & Computer Eng**, University of Waterloo

Sept 2021 - Oct 2022

GPA: 90.50/100 | Software Specialization with Machine Learning

**Bachelor of Engineering - Mechatronics Eng**, McMaster University

Sept 2017 - Jun 2021

GPA: 10.42/12 | The McMaster Honour Award, Level 3 | 2017-2019 2020-2021 Deans' Honour List