

ADA WANG

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Languages

Python, Rust, C++, JavaScript, TypeScript, Kotlin, SQL, Java

Technologies

Svelte, AWS, Google Cloud, React, Terraform, GraphQL, Express.js, Node.js, PostgreSQL

Education

University of Waterloo

Bachelor's Degree, Software Engineering Honours (2021 - 2026)

Experience

Texada Software · Core Services Developer Intern

May 2024 - August 2024

- Implemented **APIGateway** standards by introducing middleware to validate API key scopes for granulated authorization.
- Maintained **DynamoDB** and **ElastiCache** product infrastructure to support **ECS** and **Lambda** deployments.
- Migrated **Auth0** settings to **Terraform** to facilitate scalable multi-region identity management.
- Leveraged Amazon **VPC** to access private API endpoints and achieve **97%** test coverage with strict type parsing using **zod**.
- Integrated **Codebuild** tests into pipeline pre-deployment to eliminate need of lab environments, saving **\$32,000/year**.
- Automated pipeline to trigger build test on PR and customized slack messages on build status with **Eventbridge** and **Lambda**.

SnapPea · Software Engineering Intern

September 2023 - December 2023

- Architected an **Electron** dashboard and an Android app modelling **MVVM architecture patterns** to integrate with **BME688 AI Gas Sensors** using **Cloud Functions** and provide concurrent high-accuracy gas detection and prediction.
- Increased customer base by **25%** and project revenue by **\$25,000+** by collaborating with Marketing Lead to integrate digital marketing and analytics with solutions using **Google Cloud**.
- Deployed a Shopify app hosted on **Heroku** to automate new product imports, orders, and fulfillment.
- Configured **Adafruit Circuit Playground** boards to create interactive prototypes by leveraging touch, sound, and proximity sensors and accelerometers.

McAfee · Fullstack Software Developer Intern

January 2023 - April 2023

- Analyzed dataset of **30M+ users** to diagnose system failures, catching **28** errors relating to domains and data sources.
- Redesigned module mocking for React hooks and Redux stores, resulting in **21%** reduction in post-release bug reports.
- Scripted **React** and **Redux** unit tests in **Jest** for McAfee Windows Protection with **90%+** coverage.
- Modularized React components and optimized asynchronous function calls, decreasing product alert load speed by **23%**.

MakeSens · Software Developer Intern

May 2022 - August 2022

- Developed an Android app to display IoT data transmitted through **Bluetooth Low Energy** and analyze torsion stress on axles.
- Designed a simulation framework for hydrogen pipeline stress analysis and leak detection using **React** and **Amplify**.

University of Calgary · Cancer Research Student

February 2019 - July 2020

- Studied genes relevant to Low Grade Glioma to observe the relationship between mRNA expressions and survivorship.
- Produced **Kaplan-Meier** graphs and implemented the **Log Rank Sum Test** to determine the significance of survival rates between quartiles and identify potential oncogenes and tumour-suppressing genes that can serve as prognostic biomarkers.

Projects

Lodestone

- Launched server hosting tool for multiplayer games with **6000+ downloads**, **500+ monthly users**, **700+ Github Stars**.
- Implemented features for the **React** frontend using **TypeScript**, including console filtering and credential updates.
- Architected dynamic server creation by incorporating **git** with **Rust** to enable version control of the server at runtime.

Graku

- Created a grade management system to dynamically calculate and store grades in real time with a user interface using **Svelte** and backend a **DynamoDB** integrated using **AppSync** and **GraphQL**.
- Designed an algorithm to parse equations to account for dynamic user-defined grading systems.

Iago

- Developed an Othello and Go AI in **Python** and **Tensorflow** that employs reinforcement learning and implements the **alphazero** algorithm applicable to all two-player perfect-information zero-sum games.

Lyrr

- Fine-tuned **Huggingface GPT2** model on 1000+ lyric samples in **PyTorch** to create a lyric generator based on composition style.
- Refactored using **AWS CDK** to deploy on **Lambda** with **ECR Docker Container**, connecting frontend with **APIGateway**.