ADA WANG

github.com/adabingw · linkedin.com/in/adabingw · abwang@uwaterloo.ca

Languages Python, Rust, C++, JavaScript, TypeScript, Kotlin, SQL, Java
Technologies Svelte, AWS, Google Cloud, Heroku, React, Express.js, Node.js, Flask, PostgreSQL, Apache Spark
Tools Tensorflow, PyTorch, NumPy, scikit-learn, GraphQL, OpenCV, Redux

EXPERIENCE

SnapPea · Software Engineering Intern *September 2023 - December 2023*
C++, Python, Kotlin, TypeScript, Firebase, Google Cloud

- Architected an **Electron** dashboard and an Android app modelling **MVVM architecture patterns** to integrate with **BME688 AI Gas Sensors IoT** 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*
Apache Spark, Databricks, JavaScript, React, Jest

- Conducted analysis on a dataset of over **30 million users** using **Apache Spark** and **Databricks**, visualizing trends in production data to diagnose system failures, catching **28** critical errors relating to domains and data sources.
- Redesigned module mocking to enable more thorough and accurate testing of React hooks and dynamic API calls, resulting in a **21%** reduction in post-release bug reports.

MakeSens · Software Developer Intern *May 2022 - August 2022*
C++, Java, AWS, React

- Developed an **Android app** using **Java** to record and display real-time **IoT** sensor data transmitted through **Bluetooth Low Energy** to analyze torsion stress on rotary 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*
GraphPad Prism, Excel

- Produced **Kaplan-Meier** graphs using **GraphPad Prism** from thousands of samples of clinical data of genes relevant to Low Grade Glioma to study the relationship between mRNA expressions of genes and survivorship.
- Implemented the **Log Rank Sum Test** to determine the significance of survival rate between quartiles, enabling identification of 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**, **500+ Github Stars**.
- Implemented features for the **React** frontend using **TypeScript**, including console filtering and credential updates.
- Architected dynamic server creation and secure server ownership by incorporating **git** with **Rust** to enable version control of the server at runtime.

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.

Gradolatrr

- 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.

Lyrr

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

EDUCATION

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