ADA WANG

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

EXPERIENCE

Software Engineering Intern
SnapPea Design | September 2023 - December 2023

- Deployed a Shopify app hosted on **Heroku** to automate new product imports, orders, and fulfillment with a corresponding **Heroku PostgreSQL** backend.
- Developing an Android app connected to **Firebase** that models **MVVM architecture patterns** and integrates **BME688 AI Gas Sensors** with **Bluetooth Low Energy** to provide high-accuracy gas detection and prediction.

Fullstack Software Developer Intern
McAfee LLC | January 2023 - April 2023

- 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.

Software Developer Intern
MakeSens | May 2022 - August 2022

- 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.
- Improved data transfer by optimizing Bluetooth observer listening to increase update speed by **82%**.
- Designed a simulation framework for hydrogen pipeline monitoring, stress analysis, and leak detection using **React** and **AWS Amplify**.

Cancer Research Student 🔗
University of Calgary, Canadian Science Fair Journal | February 2019 - July 2020

- 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

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.
- Trained the neural network against generated data, allowing the model to improve through self-play.

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 the server using **AWS CDK** to host on **Lambda** with an **ECR Docker Container**, enabling frontend connection with **APIGateway**.

Convrr 🔗

- Developed unit and currency conversion desktop application using **Electron** and **React.**
- Supported **66 categories** with **1000+ units** and uses Exchangerates API to generate real-time exchange-rates.

EDUCATION

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