

JACKIE ZHU

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Skills

Languages: C++, C#, C, Python, JavaScript, HTML/CSS, Dart, SQL, Solidity
Technologies: Flask, Flutter, Node.js, ReactJS, IndexedDB, Firebase, AWS, Git, MySQL, Unity, SolidWorks
Certifications: AWS Cloud Practitioner

Experience

Software Developer Intern

Jan 2021 - April 2021

Waterloo Pentecostal Assembly - Technologies Team

- Led the design, development, and deployment of a social platform for local communities using **Flutter**
- Designed scalable **NoSQL** database architectures for user activity and data management
- Implemented **Firebase** cloud functions using **Node.js** to **increase** client-side loading efficiency by **25%**
- Optimized cloud storage by locally **rescaling** and **caching** uploaded files; **decreased** Firebase cost by **70%**
- Ensured **cross-platform compatibility** between **Android** and **iOS** devices of any screen size
- Used **Domain Driven Design** concepts to write clean, robust and scalable code

Test Engineer Intern

June 2020 - Sept 2020

Multimatic Inc - Dynamic Suspensions

- Performed **torque tests** for ball joints, links and control arms of Ford, Chrysler and GM cars; pinpointed more than **5 issues and inconsistencies** within production lines
- Created a **Python** script using **Pandas** to automate the documentation and visualization of torque test results

Solar Car Team Member

June 2020 - Present

MidnightSun - Mechanical and Firmware Team

- Created **CAN** messages to establish communication between brake pedal and **STM32F0** microcontrollers
- Implemented module to generate chip/process id from memory mapped data for **STM32** and **x86** systems
- Led the **Finite Element Analysis** on car's steering mechanism to ensure structural integrity under load

Projects

iFridge

Feb 2021 - Present

Mobile Flutter application for personal grocery management

- Used **Google Vision AI** to implement object detection for groceries and filtering of non-food related objects
- Stored user authentication and grocery list with **Firebase**; Leveraged **Spoonacular RESTful API** to provide users with recipes corresponding to their preferences and available ingredients

Crypto Identity

TOHacks, May 2021

A Non-Fungible Token that replaces personal identifications by storing encrypted data

- Built a client-facing website using **ReactJS** for users to create their digital ID and mint it into an **NFT**
- Used **Solidity** and the **ERC-721 standard** to create a smart contract deployed onto a local **blockchain**
- Won **Best Digital Identity Project** awarded by Interac

NBA Stats Predictor

Jan 2021 - Feb 2021

Application that forecasts player stats using machine learning

- Web-scraped 70 years of NBA data, trained model to predict individual players' stats for upcoming seasons/games; Used **Python**, **NumPy**, **SKLearn** and **TensorFlow** to achieve **70%** accuracy

Education

University of Waterloo (Cumulative GPA: 3.93/4.0)

Sept 2019 - Present

Candidate for Bachelor of Applied Science, Mechatronics Engineering

- **Awards:** Dean's Honours List, President's Scholarship of Distinction
- **Involvements:** Basketball Intramurals, Volleyball Intramurals