JACKIE ZHU

✉ y497zhu@uwaterloo.ca | ☎ 416-688-9952 | ⌨ YiJie-Zhu | in yj-zhu

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
WPA - Technologies Team

Jan 2021 – April 2021

- 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 performance efficiency by **25%**
- Optimized cloud storage by locally **rescaling** and **caching** uploaded files; **decreased** resource cost by **70%**
- Ensured **cross-platform compatibility** with **Android** and **iOS** devices of any screen size
- Used **Domain Driven Design** concepts to write clean, robust and scalable code

Test Engineer Intern
Multimatic Inc – Dynamic Suspensions

June 2020 – Sept 2020

- 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 graphing of torque test results

Solar Car Team Member
MidnightSun – Mechanical and Firmware Team

June 2020 – Present

- 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
*Mobile **Flutter** application for personal grocery management*

Feb 2021 – Present

- Implemented object detection for groceries with **Google Vision AI**; filtered out non-food related objects
- Stored user authentication and grocery info with **Firebase**; Used **Spoonacular RESTful API** to provide users with recipes corresponding to their preferences and available ingredients

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

TOHacks, May 2021

- 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 on a local **blockchain**
- Won **Best Digital Identity Project** awarded by Interact

NBA Stats Predictor
*Application that forecasts player stats using **machine learning***

Jan 2021 – Feb 2021

- 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)
Candidate for Bachelor of Applied Science, Mechatronics Engineering

Sept 2019 - Present

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