

Maximus Jialong Niu

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Skills

Frameworks/Technologies/Tools: React, Angular, Node.js, Express, Flask, SQL, Firebase, AWS (DynamoDB, API Gateway, IAM, S3), Hardhat, Web3.js, Docker, Git, Unix/Bash, PyTorch, Flutter, Figma

Programming Languages: JavaScript/TypeScript, HTML, CSS, Python, C, C++, Solidity, Dart, Kotlin, Java, MATLAB

Experience

FUsmani – Full-Stack Blockchain Developer

Toronto ON, Canada | Nov 2024 - Present

- Wrote and tested **8 smart contracts** and type interfaces with **Solidity** and **Hardhat** and deployed them to various public **Ethereum** networks using **Web3.js** to facilitate the development of a decentralized, gamified, crypto-swap platform
- Liaised regularly with clients and project owners to effectively gather requirements, provide technical updates, and ensure the successful deployment of **20+** blockchain features

Wind River Systems - Software Developer

Ottawa ON, Canada | Jan - Apr 2023

- Migrated and proactively ensured the functionality of **33** Unix-based command line utility functions to the **VxWorks RTOS** by writing, documenting, and executing over **50 unit tests** in **C/C++** on a virtual x86 architecture board
- Created a **Python** script that automated the conversion of different Markdown formats, successfully processing over **500 pages** of documentation in under **22 seconds**, streamlining documentation workflows across teams

My First Montessori School - Full-Stack Developer

Brampton ON, Canada | Jan - Apr 2022

- Spearheaded the development of a proprietary, **PHP/WordPress**-based E-learning platform to significantly enhance remote learning and teaching experience, increasing the level of teaching satisfaction by more than **86%** based on instructor surveys
- Planned and implemented a web-based **CRM** automation system that monitors and controls the notification and sending of promotional materials to leads, reducing manual entry time by over **70%**

Syntu Software - Full-Stack Developer

Waterloo ON, Canada | Sep - Dec 2020

- Led the design and development of a web application for securely uploading and storing image and video legal evidence, ensuring **100%** compliance with Canadian **PIPEDA** confidentiality regulations using **AWS DynamoDB, S3, Lambda, and IAM**
- Configured and deployed **11 RESTful API endpoints** with **AWS API Gateway**, achieving **100%** compliance with legal data access protocols and implementing **OAuth 2.0** for secure authentication
- Developed and rigorously tested **13** modular **Angular** UI components for file uploads and authenticated logins, leveraging **end-to-end testing** to ensure seamless user experience and system security

Co-operators - Software Developer

Guelph ON, Canada | Jan - May 2020

- Collaborated within an **Agile** framework alongside cross-functional teams to iteratively plan and develop a web-based automation tool to test an internal policy filing application. Utilized **optical character recognition** and **webpage scraping** to achieve the generation and submission of 400+ policies per hour
- Configured **Dockerfiles** to define runtime dependencies for the automation tool, including OCR and webpage scraping libraries, enabling a consistent runtime across **5+** development environments
- Created and executed **200+** regression test cases for the policy filing application and integrated automated testing within the **CI/CD pipeline** to automatically verify expected behavior to ensure end user satisfaction

Projects

RoomEase - Engineering Capstone Project

- Played a key role in developing a mobile, shared household management application built using **Flutter** and **Firebase**, incorporating an intuitive virtual assistant that leverages **NLP**, **LLMs**, and **Vector Databases** to enhance mediation capabilities and enable unlimited long-term context retrieval, achieving an average response time of **3.41 seconds** across all user queries

TabMagic – Guitar Tablature Analysis Tool Using Computer Vision

- Built a web application that analyzes and annotates images of guitar tablature, offering core features such as identifying chord progressions and the key of the piece, with a dynamic, user-friendly, and modular UI built with **React**
- Integrated a custom-trained **Faster R-CNN** object detection model in **PyTorch**, achieving an Intersection over Union (IoU) score of **0.85** for accurate item detection, and deployed the model on a local **Flask** server for seamless operation

Education

University of Waterloo

Waterloo, ON, CAN

BASc, Honours Computer Engineering

Sep 2019 - Apr 2024

Notable courses: Data Structures and Algorithms, Systems Programming and Concurrency, Computer Networks, Databases, Software Design and Architecture, Computer Security, Introduction to Machine Learning, Real-time Operating Systems, Compilers