Michael Zheng

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# QUALIFICATIONS

* 5+ years of Python development experience
* 3+ years of proficiency with Linux operating systems and the Bash scripting language
* Experience with developing websites in HTML and CSS for multiple organizations
* Expertise with MySQL databases and DB toolkits such as SQLAlchemy
* Hands-on experience with core technologies such as GitHub, GH Actions, Docker, AWS EC2, Oracle Compute, Azure, and RapidAPI
* General knowledge of Ghidra and low-level software reverse engineering
* Some knowledge of React and other JS frameworks
* Ability to stay focused and energized during complex engagements
* Strong troubleshooting, management, and collaboration skills in a dynamic environment with team members both virtually and in-person.

# PROJECT EXPERIENCE

## [Vex Robotics (VRC)](https://github.com/NoozSBC?tab=repositories)

September 2022 - PRESENT

* Part of team 2088S at the Western Mechatronics Robotics Club
* Won the **Tournament Champion** award in the MS division at Alberta Provincial tournament
* Attended **VEX Worlds** international championship

Responsibilities

* Lead Programmer, was responsible for writing all robot control code in C++ and VexCode
* Developed autonomous routines using PID and Odometry to allow for accurate positioning and movement, winning >30 autonomous score and scoring at least 9 discs in competitions
* Robot design/CAD using Autodesk Inventor

## 

## [Amphibia: Calamity Beatdown](https://github.com/NoozSBC/Amphibia-Calamity-Beatdown)

May 2022 - PRESENT

* Amphibia: Calamity Beatdown is a fan-made video game based on the show Amphibia. ACB features a unique blend of 2D Street Fighter-style action mixed with 3D environments and pixel-art characters.
* ACB’s gameplay and trailer media have been seen by over **100k** people across social media platforms

Responsibilities

* Developed 3rd party game status integration (e.g. Discord) in Godot Engine (GDScript) and Python
* Distribution and packaging
* Map/Environment Design
* Initial development on multiplayer support
* Playtesting

## [AmogOS](https://github.com/Amog-OS/AmogOS)

May 2021 - PRESENT

* AmogOS is a meme Linux distribution based on Debian. It is inspired by the popular video game "Among Us", and was themed around elements from the game, From the unique desktop design to the custom applications it comes preinstalled with, AmogOS is an iconic piece of Linux history. It was made for the ARM Raspberry Pi and x64 ecosystems.
* The project has over **one thousand stars** on GitHub and over **1.5 million cumulative views** on YouTube based on coverage from various content creators.

Responsibilities

* Project Lead and Founder
* Worked on technical features (package integration, distribution, and release)
* Wrote internal scripts in bash and C++

## [ZipShip](https://devpost.com/software/placeholder-ntmw09)

October 2022

* ZipShip is an innovative shipping optimizer program. It finds the quickest and fastest ways to ship a given package to any destination on the globe, while making efforts to reduce its carbon footprint along the way.
* ZipShip was made in 48 hours for the TriHacks hackathon and won the first place prize. It was built with a Python backend framework that communicated with a Discord bot frontend built in JS using Flask and pulled information using the Shippo API.

Responsibilities

* Wrote the JavaScript code for the Discord bot that parsed backend communications and rendered it
* Assisted with implementing Shippo API into backend

## [Duinotize](https://github.com/NoozSBC/Duinotize)

* Duinotize is an innovative monetization method for website owners. It’s simple to integrate, while providing an unobtrusive browsing experience without ads.
* Powered by a JavaScript service worker loaded with SHA256 hashing algorithms in the background that’s designed to mine Duino Coin, a low-powered and energy efficient cryptocurrency. This creates an ad-free browsing experience that still generates income and requires minimal energy consumption.

## [MCPI++](https://github.com/NoozSBC/mcpi-reborn-extended)

February 2021 - PRESENT

* MCPI++ is a custom mod of the popular game Minecraft: Pi Edition, patched with custom and new features like sound support, custom skins and a better creative inventory.
* It works through a custom emulation stack that patches out memory addresses stored in RAM with custom functions, which leaves the original binary unmodified.
* MCPI++ has been used as part of youth summer camps and other educational programs in countries like the UK and Japan to assist with teaching programming using its built in Python API. MCPI++ also allows for the game to be run on non-ARM systems like traditional desktop computers, while alleviating many difficulties that educators find with traditional programming educational tools.

## [Pi-Apps](https://github.com/Botspot/pi-apps)

October 2020 - PRESENT

* Pi-Apps is a GUI-based app store program designed for ARM-based products like the Raspberry Pi SBC. It’s designed to introduce new Raspberry Pi users to the Linux environment, flattening the steep learning curve. Users can easily install applications and get started with a desktop experience similar to that of Windows or MacOS.
* The app services over **1 million** users worldwide, including children in mainly European and North American schools who are developing foundational skills in technological literacy

Responsibilities

* Troubleshooting/QA
* App Script Developer

# EDUCATION

## Western Canada High School - Grade 10: Full IB Program (current)

# AWARDS

## Calgary Youth Science Fair (CYSF)

2022

* Won CYSF Top Junior Award for a project related to detecting mask-wearing with machine learning. The project utilized Tensorflow and Keras to train a machine learning model, which was connected via SSH to a Linux-powered EV3 Lego control robot.
* Additionally won the Buckley Family Award for Engineering and CYSF Travel Award

## Canada Wide Science Fair (CWSF)

2022

* Attended the Canada Wide Science Fair as a national finalist
* Won the Bronze Excellence award at CWSF
* Granted a $1000 scholarship to Western University’s Faculty of Science

## Rocky Mountain Junior Science Contest (RMJSC)

2023

* Won 1st place at the annual 2023 RMJSC hosted in Calgary

## Pascal Math Contest

2023

* Received the Certificate of Distinction for ranking in the top twenty-five percent of participants at the annual Pascal Math Contest hosted by the University of Waterloo

## Gauss Math Contest

2022

* Received the Certificate of Distinction for ranking in the top twenty-five percent of participants at the annual Gauss Math Contest hosted by the University of Waterloo

## Hackathons

* Participated in HawkHacks 2022, OneHacks II and TriHacks
* Won 1st place at TriHacks for ZipShip, a shipping and logistics optimization tool that factors cost, speed, and environmental impact

# VOLUNTEERING

## Calgary Public Library - Coding Buddies

2022 - PRESENT

* Taught basic programming concepts to children
* Provided one-on-one support and guidance
* Worked with a variety of different individuals, accommodating different learning styles and learning abilities

## [Western Mechatronics - Summer Camp](https://www.westernmech.ca/)

2023

* Assisted with teaching participants VEX driver control and autonomous in C++
* Mentored robot building for both VEX V5 and VEX IQ

**Alpine Reasoning Challenge**

May 2023 - PRESENT

* ARC is an Albertan non-profit, student-run organization dedicated to encouraging a deep passion for education in young students through free tutoring classes, summer camps, and contests. These provide students with a platform to develop and showcase their problem-solving abilities, as well as the opportunity to learn from experienced tutors and gain valuable knowledge.

Responsibilities

* Co-founder and organizer
* Outreach and fundraising with potential sponsors
* Developed the website, implemented internal bots/tools to streamline workflow and created custom online platforms to host contests
* Tutor for coding/programming classes
* Manager for coding-related competitions