Allison Zhao

289-652-6900 | allisonzhao.uni@gmail.com | linkedin.com/in/allison | github.com/allison | allison.github.io

Education

Bachelor of Computer Science (Co-op) | McMaster University Sept. 2022 – 2026
Achievements: 4.0 cGPA, Dean's List, Engineering Award of Excellence

Experience

Undergraduate Research Assistant May 2023 – August 2023
McMaster University ***Achievements: IBM CAS 2023 Project of the Year, USRA***

- Enabled the interpretation of instructions on IBM's z/Series Mainframes and POWER processors, **streamlining cross-platform compatibility for Coconut** (a platform for developing and implementing mathematical functions)
- **Optimized POWERMath**, a single-precision math library that utilizes Coconut's assembly instructions to implement a wide range of fundamental mathematical functions, resulting in a **2x improvement in overall performance**
- Employed symbolic evaluation techniques to formally prove the efficiency and effectiveness of a new reduction algorithm (**130%/226% performance optimization**), converting complex cryptographic code into concise and mathematically rigorous representations

Coding Mentor June 2023 – June 2023
STaBL Foundation

- **Planned and hosted coding workshops in Elm** (a beginner-friendly programming language that visualizes code) for over 100 students across several local school districts
- Demonstrated leadership by coordinating with instructors and volunteers, to ensure an effective and valuable learning experience for students
- Fostered a collaborative learning environment, leading to a **70% improvement in participant satisfaction** based on post-workshop surveys

Projects

EyeQ | *Taipy, Python* September 2023 – September 2023

- **Lead frontend developer**, contributing to the design and creation of a visually appealing, and user-friendly interface for EyeQ – a learning tool that uses eye tracking technologies to facilitate learning
- Became proficient in using the **Taipy framework** which was used to build the EyeQ frontend in a matter of days
- Demonstrated strong project management skills by ensuring adherence to tight project timelines

Integral Visualizer | *Elm* January 2023 – April 2023

- Created and **developed the user interface, user experience, and interactive components** for the integral visualizer that utilized the Riemann sum technique as its foundational principle
- Led and ensured that the team followed through on the **Design Thinking** process throughout prototype development
- **Helped 20+ peers** improve their understanding of integration and the Riemann sum technique

Hopitivity | *HTML, CSS, Javascript, Bootstrap* September 2021 – September 2021

- **Directed development of a productivity website** aimed at assisting students in maintaining focus on their studies
- Successfully delivered the project within a tight timeframe, showcasing strong time management and project execution skills
- **Implemented interactive buttons and other fun features using JavaScript**, enhancing user engagement and providing a seamless browsing experience

Technical Skills

Languages: Python, C, Java, Haskell, Elm, HTML, CSS, JavaScript, SQL
Frameworks: Google Cloud, React, OpenCV, Taipy, Cohere, CockroachDB, Pytorch, TensorFlow, Bootstrap
Tools: GitHub, Git, Bash