William Zhang

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EDUCATION

University of Michigan Ann Arbor, MI
Bachelor of Science in Engineering - Data Science, Minor in Ross Business *May 2026*
GPA: 3.61/4.00
Relevant Coursework: Data Structures, Algorithms, Web Systems, Computer Organization, Intro to Data Science

TECHNICAL SKILLS

Languages: Python, C/C++, Java, SQL, JavaScript, HTML/CSS, TypeScript, Swift/SwifUI, C#
Frameworks/Libraries: React, Node.js, MongoDB, Flask, Bootstrap, Firebase, Supabase, Pandas, NumPy, discord.py
Tools: Git, Docker, AWS, Google Cloud, VS Code

EXPERIENCE

Innovation For Impact Sep. 2024 – Present
Project Lead *Ann Arbor, MI*
- Enhanced the existing **MTutor** application, leading a team of two developers to refine features and optimize performance for over **600** University of Michigan students
- Implemented performance improvements using **MongoDB**, **Node.js**, **Firebase**, and **React Native**, achieving a **35% increase** in platform responsiveness and a **20% reduction** in load times

University of Michigan Nuclear Sciences Sep. 2023 – May 2024
Research Assistant *Ann Arbor, MI*
- Led a collaborative effort to develop an immersive **virtual reality game** aimed at teaching nuclear safety to students, leveraging **Unity** and **Oculus Quest** for an engaging learning experience
- Incorporated advanced **Uptale** technology and 3-D cameras to create a high-fidelity extended reality environment, significantly enhancing **interactive** learning
- Developed and optimized **C#** scripts, **reducing system latency by 30%** and improving **responsiveness**, facilitating a more effective educational tool

PROJECTS

MatchaBot August 2024
- Developed a Discord bot, 'Matcha', utilizing **Python** and **discord.py** library, enhancing server interaction and providing high quality music playback with **FFmpeg** and **YoutubeDL**
- Enhanced community engagement by **40%** through the integration of **OpenAI GPT-4**, enabling users to dynamically interact in **real-time** directly within Discord to over **20,000 active users**

InstaShare October 2024
- Developed "InstaShare", a dynamic social media application, utilizing **React**, **HTML/CSS**, **Python**, and **Flask**, emphasizing features such as user registration, content management, and social interaction to boost user engagement
- Optimized web application performance and scalability on **AWS ECS** by implementing **AJAX** calls with **TypeScript** to a **REST API** and refining **SQL** data management, leading to more efficient user interactions and increased application responsiveness, **enhancing overall performance by 20%**
- Ensured **robustness** and reliability of "InstaShare" with comprehensive testing with **Cypress**

AppointmentApp May 2024 – Present
- Integrated an appointment scheduling system with **Swift/SwiftUI** for **JP Foot Spa**, enhancing client flexibility in booking, modifying, and canceling appointments through an intuitive interface
- Implemented a real-time **Supabase** database to synchronize data across multiple devices, ensuring accurate and timely updates that improve operational efficiency for both customers and employees
- **Reduced the time** required for clients to schedule appointments **by 50%**, alleviating the need for the owner to interrupt services for phone reservations, enhancing both client satisfaction and operational workflow

2048 Clone July 2024 – Present
- Developing a **competitive AI-driven** 2048 game clone using **Pygame**, designed to offer a seamless and responsive single-player experience with AI opponents with difficulty Easy, Medium, Hard
- Enhancing the AI with **predictive modeling** to increase game complexity by **25%**, pushing players to accelerate their decision-making by **30%** for a more engaging gaming experience