Alexander Zhang

734-845-1077 | alexyz@umich.edu | linkedin.com/in/alexyz1 | github.com/Alexybz | https://alexybz.github.io/

Education

University of Michigan

Bachelor of Science in ***Computer Science*** *&* *Bachelor of Science in* ***Statistics*** *— 3.7/4.0 GPA* *Ann Arbor, MI*

Relevant Coursework: *Data Structures and Algorithms, Web Systems, Database Management Systems, Computer Organization, Linear Algebra, Discrete Math, Statistics and Data Analysis*

Experience

Technical Lead || Co-Founder **Sept 2024 – Present**

Respeak *Ann Arbor, MI*

- Lead development of modular RESTful API using SQLite to handle user management, AI discussion functionality, and caching-based message generation, educating 3 team members and decreasing message retrieval time by 60%
- Developed full-stack web application using React and Node.js/Express, integrating OpenAI API to power real-time language discussions and feedback based on user proficiency in customized virtual classroom environment
- Co-led cross-functional team of 6 in development of AI application for enhanced language learning, fostering collaboration among developer, UX, and business teams, placing 2nd in the UM Ross +Tech Challenge Round
- Built multi-table SQL database to support user profiles, flashcards, exams, enabling AI-based adaptive learning

Software Engineer Intern **May 2024 – Present**

Maize Lab *Ann Arbor, MI*

- Launched v1.0 of QRMe, a hybrid social media and e-commerce app, while working in an Agile environment. Utilized React and Express to generate user-specific URLs to generate customizable QR Codes for over 500 users
- Integrated with Printify API to dynamically forward and allocate unique QR code images on all products, providing each customer with unique store views, increasing scalability and decreasing image rendering time by 33%
- Optimized a JavaScript script to dynamically generate QR codes from URLs received, convert codes to PNG format, and post generated QR codes to parent site, decreasing image generation latency by 60%
- Configured an Express router in Node.js to handle user dashboard routing, integrating server with PostgreSQL for data retrieval, resulting in conditional rendering between private and public dashboard views

Software Engineer Intern **Mar 2024 – May 2024**

Ethereal Realms Company *Minneapolis, MN*

- Developed internal tools supporting VR voting platform enabling out-of-country citizens to securely vote
- Engineered RESTful API prototype using Node.js/Express for employee information management with SQLite3 database enabling CRUD on employee data handling for over 25 employees, reducing data retrieval time by 40%
- Refined company website using React and Tailwind CSS to optimize user engagement, deploying via Docker. Resulted in acquisition of two clients and total investment of $10,000

Projects

MyManager

- Deployed full-stack project management app using React, TypeScript, Node.js, Next.js, Tailwind CSS, MongoDB
- Designed Mongoose schema based on nested relational data structures
- Integrated Clerk authentication Platform for secure user login and real-time WebSocket updates, providing live notifications and immediate task status updates in MyManager, ensuring data consistency across sessions

Machine Learning Post Categorization

- Formulated machine learning classifier, automatically categorizing online posts for organization and retrieval efficiency through concise Multi-Variate Bernoulli Naïve Bayes model training on dataset of archived posts
- Trained classifier to compute log-probabilities for forum post categorization based on previous frequencies of post content and post topic correlation, applied to real-world datasets with verified accuracy of up to 83.15%

Technical Skills/Interests

Technologies: C/C++, JavaScript (React, Next.js, Node.js, Express), TypeScript, Python, HTML, Tailwind CSS
Development Tools: Git, GitHub, VS Code, Visual Studio, Jupyter Notebook, AWS, SQL
Interests: Hand-tie blankets, water skiing, Pistons fan, weightlifting, saxophone, traveling, rowing, skiing