

Andrew Zhang

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EDUCATION

UNIVERSITY OF MICHIGAN – ANN ARBOR

2025

Bachelor of Science - Computer Science

Relevant Coursework: Data Structures and Algorithms, Software Engineering, Computer Security, Database Management Systems, Web Systems, User Interfaces, Computer Organization, Statistics, Linear Algebra, Discrete Mathematics, Information Retrieval

WORK EXPERIENCE

TESLA

May 2024 – August 2024

Software Engineer Intern

Palo Alto, CA

- **Developed a scalable UI test automation framework** using Evemu (Linux input library), Python, C++, and Ruby, creating automated test generation for Selenium-like UI testing across US and CN teams, **accelerating the testing pipeline by 32%** and reducing engineer overhead by approximately 100 man-hours monthly or \$70,000 yearly
- **Engineered a fully automated CI/CD pipeline** in Jenkins using Groovy and Bash, integrating CPU and memory profiling with auto-generated flame graphs, increasing **profiling data generation and distribution efficiency by 28%**.
- **Designed and deployed an intelligent bot** leveraging PerfAB (internal performance testing tool), Python, and Jenkins, automatically sending **real-time performance reports and CPU/memory profiling data**, improving response time to performance issues by **55%**.

BRIDGE LEGAL

June 2023 – February 2024

Software Engineer Intern (Full-Stack)

Chicago, IL

Bridge Legal is a SaaS company focused on building technology solutions between individuals and lawyers

- **Designed and built a full-stack AI-powered legal document processing platform** using Python (Flask), React.js, AWS (S3, EC2, Lambda), and LLMs (Llama 2), enabling users to **query legal documents for specific case information**, improving **document retrieval efficiency by 40%**.
- Optimized data exchange between our platform and external vendors by designing scalable RESTful APIs and automating data pipelines with Python, reducing latency and processing time by 30% and improving system interoperability.
- **Implemented a secure, scalable user authentication system** using JWT, OAuth2, and role-based access control (RBAC), ensuring **secure API access and data protection** while improving authentication response times by **35%**.

iXPERIENCE | VITA WALLET

May 2022 – July 2022

Software Developer Intern

Remote

iXperience is a selective program combining career-focused education with hands-on internship experience

- **Optimized and refactored the front-end architecture** of Vita Wallet's financial dashboard using React, JavaScript, and HTML, improving **load performance and responsiveness by over 200%**.
 - **Developed a scalable, real-time dashboard** for **50,000+ international users**, enabling efficient access to **account details, currency conversions, and transaction data**.
 - **Implemented API integrations and client-side caching** to **reduce latency and improve data retrieval speed**, enhancing the overall user experience for cross-border financial transactions.
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PROJECTS

Odyssey (iOS) | Swift, SwiftUI, OpenAI API, Firebase

- Developing an AI-driven travel planning app that leverages ChatGPT (OpenAI API) to recommend customized vacation itineraries based on user preferences, budget, and travel history
- Implemented a personalized trip dashboard using SwiftUI and Firebase, allowing users to store past trips, upload photos, and access AI-generated recommendations for future travels.
- Designed an interactive map feature for visualizing saved destinations, flights, and accommodations, enhancing trip planning efficiency.

Search Engine | Python, Flask, MapReduce, SQL, HTML, CSS

- Built a scalable search engine leveraging MapReduce and an inverted index, optimizing text retrieval efficiency with tf-idf and Google's PageRank.
- Developed a RESTful API for JSON-formatted search results, integrating a dynamic front-end UI for real-time queries.

Networking & Web Security | Python, Cybersecurity

- Developed security tools to detect and defend against cyberattacks targeting DNS, TLS, TCP/UDP, and HTTP protocols.
 - Implemented website vulnerability scanners to identify SQL injection, Cross-Site Request Forgery (CSRF), and XSS attacks, improving web security awareness.
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SKILLS | C++ | C | Python | Java | JavaScript | HTML | CSS | React | Swift | SQL | Ruby | Bash | Flask | Git/GitHub | Unix/Linux | Jenkins | Visual Studio | Visual Studio Code | XCode | MS Office | Kubernetes | AWS | Unit Testing | Full-Stack Development