

AVA ZHEER WANG

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EDUCATION

Georgia Institute of Technology

M.S. in Computational Science and Engineering | GPA: 4.0/4.0

Aug 2025 - May 2027

University of Illinois at Urbana-Champaign

B.S. in Statistics, Computer Science and Mathematics Minor | GPA: 3.91/4.0

Aug 2022 - May 2025

PROFESSIONAL EXPERIENCE

Intuit Inc.

Incoming Software Engineer Intern

New York, NY

May 2026 - Aug 2026

- Incoming full-stack SWE intern for global business solution team

Illinois Department of Statistics

Research Assistant (Software Development)

Champaign, IL

Aug 2024 - May 2025

- Built an automated data ingestion pipeline in **Python (Selenium, BeautifulSoup)** to scrape and process over **2TB** of baseball statistics, scheduled with **GitHub Actions** for daily, hands-free execution.
- Engineered backend data services in **Python** integrating **R modules** for statistical transformations; deployed as **Docker** containers feeding a **Firestore Realtime Database**, optimizing schema and indexing to reduce query latency by **45%**.
- Redesigned and deployed a full-stack **responsive web application ([Website])** using **React, CSS Grid/Flexbox, and Firebase**, improving cross-device (desktop/mobile) display and reducing initial load time by **40%** for **1000+ active users**.

Zhejiang NHU Co., Ltd.

Software Engineer Intern

Zhejiang, China

June 2024 - Aug 2024

- Designed and developed distributed microservices in **Java (Spring Boot)**, containerized with **Docker** and **Kubernetes**; implemented **REST APIs** with service discovery, deploying to clusters supporting high availability across multiple regions.
- Built a real-time visualization dashboard in **React + D3.js**, leveraging **WebSockets** for live data streaming and a **Redis** caching layer, achieving **< 100ms UI updates** for over **2,000 concurrent users** under load testing.
- Implemented a **graph-based optimization engine** in Java consuming **1TB+** logistics data from a **Kafka stream**, reducing average route computation latency from **2s** to **800ms** and cutting transportation costs by **10%**.

Illinois ATLAS Teaching and Learning with Technology

Machine Learning Engineer Intern

Champaign, IL

May 2023 - Aug 2023

- Engineered a **HIPAA-compliant** data pipeline for a risk prediction model, performing feature engineering and preprocessing on **10,000+ sensitive patient records** to create high-quality training datasets.
- Deployed the trained **ML model** as a low-latency **REST API service** with **Django Rest Framework**, supporting **5K+ daily active users** with average response time under **40ms**; implemented **CI/CD automation** using **GitHub Actions** and **Docker**.

PROJECTS

FinMA-RAG: Multi-Agent Retrieval & Reasoning for Financial QA

- Built a production-style **RAG system** for financial question answering over large-scale **SEC 10-K/10-Q filings**, implementing **structure-aware PDF ingestion** and table-preserving chunking to improve retrieval reliability on long, irregular documents.
- Implemented **hybrid retrieval (BM25 + dense FAISS embeddings)** with **LLM-based query expansion** and **ColBERT-v2 reranking**, improving evidence recall and fiscal-period precision under domain-specific terminology drift.
- Designed a **multi-agent reasoning pipeline** with tool-based deterministic computation (no LLM arithmetic), reducing numerical errors and improving end-to-end QA accuracy from **19.3% to 44.0%** on **FinanceBench** (**2 times** over a vanilla RAG baseline).

Full-Stack Course Management Platform

- Engineered a **full-stack** course management platform for **300+ students** using **React, Node.js, and MySQL**, providing an integrated solution for interactive course discovery, schedule planning, and peer reviews.
- Designed and implemented a secure backend with **Node.js/Express**, featuring **JWT-based authentication** and a normalized **MySQL schema with transactions** to ensure data integrity under concurrent use.
- Optimized a critical prerequisite-chain query with **composite indexing**, reducing latency by **99.5%** (**3s** → **<15ms**); deployed the containerized application with **Docker** on **Google Cloud Platform (GCP)** via a **CI/CD pipeline**.

TECHNICAL SKILLS

- Languages:** Java, Python, JavaScript, TypeScript, Go, SQL, C#, C, C++, HTML, CSS
- Frameworks & Libraries:** Spring Boot, Django, Node.js, Express, React, FastAPI, D3.js, BeautifulSoup, Selenium
- Cloud & Databases:** PostgreSQL, MySQL, MongoDB, Redis, Firebase, AWS, Docker, Kubernetes
- Tools & Technologies:** CI/CD (GitHub Actions, Jenkins), GraphQL, REST API, Git, WebSocket, Kafka, Agile, Scrum