

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

Courses: Artificial Intelligence, Large Language Models, Conversational AI, NLP, Machine Learning, Deep Learning

PROFESSIONAL EXPERIENCE

Intuit Inc.

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

Champaign, IL

Aug 2024 – May 2025

- Built an automated **public-data ingestion pipeline** in Python (Selenium, BeautifulSoup) to collect, clean, and process over 2TB of domain-specific statistics, enabling daily reproducible updates through GitHub Actions.
- Engineered **backend data services** in Python with integrated R-based statistical transformations; deployed Dockerized pipelines to feed a **Firestore Realtime Database** and reduced query latency by 45% through schema and indexing optimization.
- Redesigned and deployed a **public-facing interactive website** ([Website]) using React, CSS Grid/Flexbox, and Firebase, improving data exploration across desktop/mobile devices and reducing initial load time by 40% for 1000+ active users.

Zhejiang NHU Co., Ltd.

Software Engineer Intern

Zhejiang, China

June 2024 – Aug 2024

- Developed a **full-stack logistics platform** with React, Java (Spring Boot), and Redis, delivering an integrated system for real-time data visualization, backend processing, and operational decision support.
- Designed and implemented scalable backend infrastructure with Spring Boot, REST APIs, and service discovery; deployed containerized services with Docker and Kubernetes to ensure high availability across multiple regions.
- Built interactive frontend dashboards with React, D3.js, and WebSockets, supporting 2,000+ concurrent users with <100ms live updates; improved route computation performance on 1TB+ logistics data from 2s to 800ms, cutting transportation costs by 10%.

Illinois ATLAS Teaching and Learning with Technology

Machine Learning Engineer Intern

Champaign, IL

May 2023 – Aug 2023

- Developed an applied machine learning pipeline for a healthcare risk prediction application, handling data preprocessing, feature engineering, and high-quality dataset construction across 10,000+ sensitive patient records.
- Productionized the model as a low-latency API service and supported its integration into a real-world **decision-support workflow**, serving 5K+ daily users; streamlined deployment with GitHub Actions and Docker.

RESEARCH PROJECTS

FinMA-RAG: Multi-Agent Retrieval & Reasoning System

- Built a **multi-agent RAG system** for evidence-grounded question answering over large-scale domain-specific documents, using **structure-aware ingestion** and **table-preserving chunking** to improve retrieval over long, irregular sources.
- Implemented a **hybrid retrieval pipeline** combining BM25, dense FAISS embeddings, LLM-based query expansion, and ColBERT-v2 reranking, improving evidence recall and robustness under domain-specific terminology drift.
- Designed an **agentic reasoning workflow** for retrieval, evidence analysis, deterministic computation, and final answer synthesis, improving end-to-end QA accuracy from 19.3% to 44.0% on FinanceBench.

AssumptionLens: Structured Monitoring & Auditing of LLM Coding Agents

- Built a structured monitoring framework for LLM coding agents to detect and audit **implicit assumptions** in multi-step code generation workflows, improving interpretability and failure diagnosis in **under-specified tasks**.
- Implemented a structured analysis pipeline that generates **assumption-level audits** with category labels, supporting evidence, impact estimates, and alternative decisions from **prompt/response traces**.
- Evaluated the system on tasks derived from SWE-bench, WildChat, and curated prompts, supporting research on reliable agent systems and achieving 81.9% **operational recall** in the completed pilot setting.

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