

Shiyang Zhao

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EDUCATION

University of Illinois Urbana-Champaign, Champaign, IL

Expected Dec 2025

Master of Computer Science

GPA: 3.8/4.0

Arizona State University, Tempe, AZ

Dec 2022

Bachelor of Science in Computer Science

GPA: 3.9/4.0

EXPERIENCE

Graduate Researcher

Champaign, IL

University of Illinois Urbana-Champaign

Jan 2025 - Present

- Conducting research on energy-efficient routing and power management for inter-satellite links (ISLs) in collaboration with PhD students Xiaojuan Ma and Shashwat Jaiswal, mentored by Prof. Indranil Gupta
- Exploring energy-efficient strategies inspired by ad-hoc sensor networks, focusing on Transmission Power Control (TPC), Load Distribution, and Sleep Scheduling
- Investigating advanced routing strategies such as ECARS, ERU-DOD, and ERA-DOD to balance energy efficiency and network performance in ISLs
- Evaluating trade-offs between latency, power consumption, and network stability to enhance ISL longevity and reliability

Software Engineer Intern

Omaha, NE

Civillience

Aug 2024 - Present

- Built serverless RESTful APIs with AWS Lambda, Python (Flask), and Node.js (Express), handling 50,000+ daily requests and improving response times by 22%
- Migrated legacy APIs to microservices architecture, decreasing request latency from 150ms to 105ms and saving \$1,200 annually in server costs
- Secured authentication with AWS Cognito and managed large-scale data using DynamoDB and RDS
- Automated 100+ IAM role assignments for AWS EC2 and Amplify, saving 30 hours of manual effort each month

Software Engineer

San Jose, CA

Rnd4impact

Mar 2023 - Mar 2024

- Developed scalable APIs with Django and PostgreSQL, boosting query time from 350ms to 200ms
- Built Spring Boot microservices with AWS RDS and S3, enabling scalable storage for 500GB+ of data
- Created a responsive frontend with Next.js and TypeScript, reducing page load time by 1.5 seconds
- Enhanced software reliability with Selenium regression tests, resolving 70+ production bugs

PROJECTS

Distributed Stream Processing System – RainStorm ([Link](#))

Aug 2024 – Dec 2024

- Designed RainStorm for real-time processing, surpassing Spark Streaming by 15% in throughput
- Improved resilience with 2-second fault detection, state recovery, and dynamic task rescheduling

Social Media Web Application – Metasphere ([Link](#))

March 2024 - June 2024

- Built a social platform with Reddit-style posts and Instagram-like stories using Django and PostgreSQL
- Implemented real-time comments, stories, chat, and notifications with WebSocket and Celery

SKILLS

Programming Languages: Java, Python, C#, Go, JavaScript, TypeScript

Tools: Spring, Django, Flask, Next.js, Node.js, React.js, Selenium, Jenkins, PostgreSQL, MySQL, MongoDB, Redis, Docker, AWS, GCP