

# 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

- Researching energy-efficient routing algorithms for inter-satellite link (ISL) in collaboration with PhD students Xiaojuan Ma and Shashwat Jaiswal, mentored by Prof. Indranil Gupta
- Exploring energy-aware routing inspired by ad-hoc and sensor network techniques
- Investigating methods like ECARS, ERU-DOD, and ERA-DOD to balance energy efficiency and network performance
- Analyzing trade-offs between latency, throughput, and energy efficiency in LEO satellites

### 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 secure, scalable backend APIs with Django and PostgreSQL, boosting query time from 350ms to 200ms
- Built Spring Boot microservices with AWS RDS and S3, enabling reliable 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

- Built HyDFS, a distributed file system with caching, achieving 4x faster reads on a 10-VM cluster
- 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
- Secured the platform with OAuth 2.0, supporting Google, GitHub, and Microsoft login
- Enabled real-time interactions with posts, chat, and notifications using 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