

Yixin Xiao

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PROFESSIONAL SUMMARY

Senior Software Engineer with 5 years of experience building backend, platform, and cloud infrastructure systems on AWS. Led infrastructure automation, governance tooling, and distributed systems initiatives supporting 10,000+ users, reducing incidents by 60% and delivering \$1.2M in annualized savings. Strong background in Terraform, Databricks, and scalable internal platforms.

WORK EXPERIENCE

Capital One

New York, NY

Senior Software Engineer

Jan 2024 – Present

- Architected Terraform-based CI/CD pipelines to provision Databricks infrastructure and AWS resources for a platform serving 10,000+ users, reducing annual incident rates by 60%.
- Designed and launched a Governance SDK adopted by 5 cross-functional teams within 2 months, standardizing Databricks platform integrations and reducing duplicate implementation effort.
- Built an event-driven microservices system on AWS Lambda and EventBridge with automated health checks, reducing platform RTO from 10 hours to 15 minutes and cutting weekly operational support time by 93%.
- Automated code auditing and sanitization workflows across the governance layer, eliminating 80+ hours of manual security remediation work per quarter.
- Built an AI-assisted operational support agent and CLI workflow that tripled biweekly ticket throughput and cut new Lambda service setup from 1–2 hours to under 5 minutes.

Software Engineer

Aug 2022 – Jan 2024

- Optimized Databricks compute policies and workload guardrails, reducing platform spend by \$100K per month (\$1.2M annualized).
- Built a medallion architecture pipeline for Databricks chargeback reporting, enabling self-service analytics across 3 enterprise business verticals.
- Led migration of 7,000+ users from legacy Private Cloud Databricks to SaaS Databricks, improving governance through centralized account management and stronger identity controls.

Associate Software Engineer

Aug 2021 – Aug 2022

- Built a centralized search portal for cybersecurity products and resources, consolidating 100+ entities used by 20+ internal teams.
- Improved search relevance and query performance by up to 35% through TF-IDF wrapper optimization and AWS RDS schema improvements.

University of Michigan, Palfey Lab

Ann Arbor, MI

Undergraduate Research Assistant

Oct 2020 – Aug 2021

- Built and deployed a full-stack search engine on Docker and OpenShift, integrating a Neo4j graph database with custom search algorithms (Cypher queries, modified Jaro-Winkler) to support partial and fuzzy matching of chemical compound structures.
- Simulated chemical compound structures with Visjs (graphing library) leading to interactive graph search methods, adding another search dimension.

EDUCATION

University of Michigan, Ann Arbor

May 2021

B.S.E. in Computer Science, Minor in Business Administration | GPA: 3.80/4.00 | Summa Cum Laude

PROJECTS

Triplanner — Full-Stack Travel Planning App

- Architected and deployed a containerized travel planning app with React 18, Express, JWT authentication, Docker, and Nginx with TLS. Automated development workflows using LLM-powered multi-agent orchestration with integrated code review and QA testing (Playwright, Vitest).

Diet Tracker — Serverless Nutrition Tracking App

- Designed and deployed a serverless nutrition tracker on AWS (Lambda, API Gateway, RDS PostgreSQL, Cognito) with OAuth 2.0 PKCE authentication. Implemented end-to-end CI/CD with GitHub Actions and automated Playwright testing.

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, JavaScript, SQL, C++

Frameworks: Spring Boot, Node.js, Express, FastAPI, React, Next.js

Cloud & Infrastructure: AWS (Lambda, API Gateway, EventBridge, SQS, S3, CloudFront, RDS, Cognito, CloudWatch), Terraform, Docker, Jenkins, OpenShift, GitHub Actions, CI/CD

Data & Platforms: Databricks, Apache Spark, PySpark, PostgreSQL, Neo4j, Cypher

Tools: Git, Linux

Certification: AWS Certified Solutions Architect – Associate