Yufei Qiu

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EDUCATION

Purdue University	West Lafayette, IN
Master of Computer Science	*Jan. 2024 – Dec. 2025*

Purdue University	West Lafayette, IN
Bachelor of Computer Science, Minor in Mathematics (GPA: 3.65)	*Aug. 2021 – Dec. 2024*

EXPERIENCE

Amazon Web Services (AWS) – Software Development Engineer Intern May 2025 – Aug. 2025
Secrets Manager *Seattle, WA*
- Shipped customer metrics using Amazon's internal **Coral** framework, including an idle usage metric across 50M+ secrets via **CloudWatch, DynamoDB, and SQS**, enabling up to $48M in potential annual cost savings.
- Built a fully integrated **TypeScript** dashboard in the Secrets Manager console; wrote unit tests via **Jest**, **React Testing Library**, ensuring accuracy and reliability for millions of users.
- Designed and implemented a backend metrics pipeline that collected data from **DynamoDB**, processed it via **SQS**, and emitted customer-facing metrics to **CloudWatch** Asynchronously for usage monitoring and cost optimization.
- Updated outdated documentation on Amazon's internal wiki, reducing new hire setup time by 60%; authored **Bash scripts** to automate legacy API testing through the local development stack.

Kohl's – Software Engineering Intern June 2024 – Aug. 2024
Returns Team *Remote*
- Deployed 5+ backend features to production using **OpenShift**, including support for original payment card returns, reducing in-store wait time by **30%**.
- Modernized **Spring Boot** applications by migrating SOAP APIs to REST with **Java**, reducing technical debt and improving maintainability.
- Migrated application from **Spring Boot 2** to **3** by upgrading dependencies and refactoring code for compatibility; added caching to reduce latency by avoiding redundant client credential lookups.
- Developed unit and integration tests using **JUnit** and **Mockito** to simulate customer returns with coupons across various return windows; conducted backend performance testing with **K6**.

No Limit Living LLC (Capstone) - Full Stack Developer Aug. 2023 – May 2024
Purdue University *West Lafayette, IN*
- Redesigned user auth and forum database with **Next.js** and **MongoDB** across 16 Agile sprints.
- Developed forum functionality and integrated frontend with backend using **Node.js** and **React**.
- Worked directly with CEO and product stakeholders to align engineering deliverables with business objectives.

PROJECTS

Music Genre Classification with LLMs May 2025
BERT + LSTM/GRU with GloVe embeddings
- Built a multi-class genre classifier for 10K+ lyrics using **PyTorch, HuggingFace, and GloVe embeddings**.
- Fine-tuned and benchmarked models on accuracy, achieving **73%** with error analysis for model robustness.

Networking Router with DHCP and NAT May 2025
C-based System Project
- Created a **NAT router** and **DHCP server** in **C**, enabling IP forwarding and dynamic assignment across networks.
- Managed dynamic **NAT tables** for ICMP, TCP, and UDP traffic with timeout handling.

Optimized Scala Compiler Dec. 2024
Custom Compiler Design
- Created a full compiler pipeline including **CPS translation**, optimization passes, and **garbage collection**.
- Added support for arithmetic ops, type checking, error handling, and dynamic memory allocation.

TECHNICAL SKILLS

Programming Languages: Java, Python, C/C++, SQL, MongoDB, JavaScript, TypeScript, Bash, Scala, R
Frameworks & Tools: Spring Boot, React, Node.js, Docker, Kubernetes, AWS (Secrets Manager, CloudWatch, DynamoDb, Lambda, S3, SQS, EC2, IAM, CDK, CloudFormation), MongoDB, PostgreSQL, Git, Postman, Confluence, Jira
Libraries & Data: PyTorch, HuggingFace, Dataset, Pandas, Word2Vec, NumPy, Matplotlib
Methodologies: Agile/Scrum, CI/CD, Test-Driven Development (TDD), Pair Programming