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 metrics surfacing idle usage patterns across 50M+ secrets using **CloudWatch, DynamoDB, and SQS**, enabling up to $48M in potential annual cost savings for AWS customers.
- Built a fully integrated **TypeScript** dashboard in the Secrets Manager console; rigorously tested via **Jest**, **React Testing Library**, ensuring accuracy and reliability for millions of users.
- Designed a **customer-facing metrics platform** for usage monitoring and cost optimization; conducted **stress tests** to validate performance at scale.
- Updated internal docs and wrote **Bash scripts** to test legacy API functionality.

Kohl's – Software Engineering Intern   June 2024 – Aug. 2024
Return's team   *remote*
- Deployed 5+ backend features into production using **Spring Boot and Openshift**, including support for original payment card returns—reducing in-store wait time by **30%**.
- Modernized backend architecture by migrating SOAP APIs to REST using **Java**, decreasing technical debt and improving maintainability.
- Refactored legacy modules to improve maintainability and scalability, and implemented caching to reduce redundant backend calls.
- Developed and maintained robust unit and integration tests using **JUnit** and **Mockito**.

Full Stack Developer – No Limit LLC (Capstone)   Aug. 2023 – May 2024
Purdue University   *West Lafayette, IN*
- Spearheaded backend development through 16 Agile sprints, designing RESTful APIs using **Next.js** and managing **MongoDB** operations.
- 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 simulated 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, JavaScript, R
Frameworks & Tools: Spring Boot, React, Node.js, Docker, Kubernetes, AWS (CloudWatch, DynamoDb, Lambda, S3), MongoDB, Git, IntelliJ, VS Code
Libraries & Data: PyTorch, HuggingFace, pandas, NumPy, Matplotlib
Methodologies: Agile/Scrum, CI/CD, Test-Driven Development (TDD)