

Shicheng Fang

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EDUCATION

Purdue University, West Lafayette, IN

Jan. 2024 (Expected)

- Bachelor of Science in Computer Science (GPA 3.81/4.0)
- Courses: Data Structure & Algorithm, Operating System, Database System, Cloud Computing

SKILLS

- Programming Languages: C/C++, Java, Python, JavaScript, TypeScript, Golang, SQL, HTML, CSS
- Technologies/Frameworks: React, Kubernetes, Docker, GCP, AWS, Node.js, Git

WORK EXPERIENCE

Software Engineer Intern

Seattle, WA

Amazon Web Service

May, 2023 - Aug. 2023

- Facilitated streamlined certificate management for on-call engineers by designing dashboards utilizing **React**, **Java**, and **Python**, providing real-time status of SSL/TLS certificates
- Engineered and optimized certificate rekeying workflow using **AWS SQS**, **Lambda**, and **DynamoDB**, transitioning to asynchronous architecture with loose coupling between system components
- Increased availability and reduced response time of rekeying SSL/TLS certificate API from 600ms to 300ms in high-traffic AWS region
- Improved data integrity and eliminated the manual effort of deleting inconsistent data records by introducing **idempotency** in certificate requesting workflow.
- Orchestrated service deployment across global data centers using an advanced **CI/CD** pipeline, featuring safe rollback, automated production release, and regional **integration** and **canary** tests

Researcher

West Lafayette, IN

Database Lab, Purdue University

Dec. 2022 - June. 2023

- Identified and resolved performance bottlenecks in Bloom Filter in **MySQL** and **Postgres** by redesigning querying algorithms and integrating **AVX2** and **AVX512** instruction sets
- Developed **cache-friendly**, **parallel**, and **pipeline-optimized** Bloom Filter targeting **Linux** and **FreeBSD** kernels, using **C/C++** and **X86 Assembly**
- Increased 70% throughput with reasonable false-positive rate through decision-making on tradeoffs

Software Engineer Intern

Los Angeles, CA

StartInvest

Jun. 2022 - Aug. 2022

- Styled, developed, and tested 10+ **React** components using **TypeScript**, **HTML**, and **CSS** for the notification and messaging feature of the stock trading platform
- Customized **React Hooks** to encapsulate 20+ **REST** APIs with reusable **TypeScript** interfaces
- Speeded up **SQL** queries by up to 50% by designing 10+ **stored procedures** on **Postgre** database

Software Developer

West Lafayette, IN

Pebblst

Jan. 2022 - June. 2022

- Developed an interface for displaying real-time farm data, with **React** frontend and **Python** backend
- Accomplished reliable deployments on **AWS EC2** through **Docker** containerization and **Infrastructure as Code** using **CloudFormation**

PROJECTS

Theater Ticket Booking

Mar. 2022

- Developed **WebSocket** API using **Django** for real-time data delivery of ticket information
- Ensured consistency in message delivery in distributed system by incorporating **RabbitMQ**