

JIACHENG SHEN

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Education

Rice University

Master of Computer Science, GPA: 3.70/4.00

May. 2025 (Expected)

Houston, TX

Drexel University

Bachelor of Science in Data Science (Mathematics Minor), GPA: 3.95/4.00, Dean's List

May. 2023

Philadelphia, PA

Experience

Affekta LLC — Development Team

May. 2024 - Aug. 2024

Software Developer Intern - *Azure Functions, Azure DevOps, SQL server, Redis*

Houston, TX

- Designed and implemented an online code evaluation microservice supporting Python and Java, seamlessly integrated into the company's e-learning platform
- Migrated the architecture of the service back end from **Django** and **Docker** to **Azure Functions**, achieving a serverless, auto-scaling system that handled a 400+ monthly user growth; developed an intuitive UI using **React**
- Managed 140+ AI-generated problem records and tracked user submissions using **SQL Server**
- Optimized system performance by implementing **cache preheating** with **Event Grid** and **Blob Storage** for active problem solving, leveraging thread pooling to reduce response time from 300ms to 100ms
- Accelerated deployment cycles by 50% through **Azure DevOps** CI/CD pipelines; employed **Agile** method and cooperated with a team of 4 to deliver the fully-functional project within 50 days

Rice University — Center for Research Computing

Feb. 2024 - May. 2024

Software Developer Intern - *Docker, Flask, Kafka*

Houston, TX

- Established an interactive, web-based dashboard using **Flask** and **Plotly** to visualize over 40 resource usage metrics for 200+ campus users, seamlessly integrating Central Authentication Service (CAS) for secure user authentication
- Streamlined deployment by containerizing the application with **Docker** with Multi-stage builds and orchestrating services using **Docker Compose**, ensuring robust and efficient hosting within campus infrastructure
- Refactored existing upload workflow by crafting a **multi-processing** parallel file transmission system, boosting concurrency for I/O-intensive tasks by leveraging **coroutine**, saving 20+ hours of manual effort weekly
- Revamped the architecture by decoupling the directory polling and the file uploading modules with **Kafka**

Orna Therapeutics, Inc — Computational Team

Sept. 2022 - Mar. 2023

Data Science Intern - *Pytorch, AWS, GNN, PyTest*

Cambridge, MA

- Engineered the company's first RNA prediction pipeline by customizing Graph Neural Networks to predict expression levels across **30,000+** RNA samples using **PyTorch**, deployed on **AWS EC2**, improving RNA screening efficiency by 26%
- Achieved 95% test coverage through unit tests using **PyTest** for self-defined Pytorch DataSet and DataLoader

Amarsoft Co.,Ltd. — Data Center

Mar. 2023 - Sept. 2023

Software Developer - *Jenkins, Nginx, Spring Cloud, Kubernetes*

Suzhou, China

- Decompose a monolithic people management application into microservices for **information management** and **check-in** functionality, integrating a **Quartz**-based **shift reminder** service, serving 1000+ internal employees
- Automated CI/CD pipeline using **Jenkins**, integrated with **Maven** and **JUnit**, incorporating manual approval workflows, automated deployment reports, and rollback capabilities, cutting deployment time by 40%
- Configured **Nginx** for load balancing across **Kubernetes**-managed services, optimizing traffic distribution

Project

WeCommunity - High Scalable Social Media Web App 🌐 - Houston, TX

Feb. 2024 - May. 2024

- Developed a distributed social media web app using **Spring Boot**, creating RESTful APIs with **dependency injection** and enhancing maintainability through **AOP**-based logging
- Architected microservices for **User**, **Post**, **Instant Messaging**, **Search**, and **Follow/Like** functionalities using **Spring Cloud** and **Eureka** for service discovery, incorporating **Amazon API Gateway** for traffic management
- Enhanced system reliability by integrating **RabbitMQ** for asynchronous processing in the notification push system and **WebSocket**-based live chat, achieving peak-load shifting and reducing response latency by 30%
- Improved data handling with a 2-tier architecture leveraging **Redis** and **MySQL (RDS)**; implemented a scalable **ElasticSearch** engine, supporting search functionality for 1M+ posts and comments
- Strengthened system security by configuring **Spring Security filter chains** to manage 3-level user permissions and integrating **JWT**-based authentication, ensuring secure and role-based access control
- Streamlined deployment to **AWS EC2** by implementing **CodePipeline**, automating artifact generation and storage in **S3**

Technical Skills

Languages: Java, Python, Go, C/C++, Shell, HTML/CSS, Javascript, SQL

Web Development: Flask, Spring, React, Django

Databases: MySQL, Redis, SQL server, PostgreSQL, MongoDB, Bigtable, AWS RDS, Elastic Search

Clouds: AWS (Lambda, CodePipeline, API Gateway), Azure (Functions, Event Grid, DevOps), GCP (App Engine)

Development Tools: Linux, Git, Docker, Kubernetes, Kafka, RabbitMQ, Maven, Anaconda, Pytest, JUnit