

# Yunmu Shu

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## EDUCATION

<b>Northeastern University</b> <i>Master of Science in Computer Science (GPA: 3.9/4.0)</i>	Boston, MA Sep. 2022 – Aug. 2025
<b>Northeastern University</b> <i>Master of Science in Financial Mathematics</i>	Boston, MA Sep. 2021 – Aug. 2022
<b>Guangdong University of Foreign Studies</b> <i>Bachelor of Science in Economics</i>	Guangzhou, Guangdong Sep. 2017 – Jun. 2021

## EXPERIENCE

<b>Software Developer Intern</b> <i>First Help Financial</i>	Jan. 2025 – Jun. 2025 Needham, MA
<ul style="list-style-type: none"><li>Engineered backend modules for an auto loan origination and decisioning platform used by dealers and underwriters, enhancing automation and ensuring regulatory compliance throughout the funding evaluation workflow</li><li>Analyzed slow SQL queries in loan transaction module using MySQL EXPLAIN, added composite indexes and optimized pagination with keyset query logic, reducing query latency by <b>22%</b> under 10k+ records</li><li>Built a centralized Vehicle Data Retrieval service integrating Elasticsearch and <b>Redis</b> caching, boosting query throughput by 15% and handling 500k+ monthly search requests across multiple business modules</li><li>Monitored and visualized database performance metrics via Prometheus and Grafana to reduce overall CPU utilization</li></ul>	
<b>Software Developer Intern</b> <i>Dassault Systèmes</i>	Feb. 2024 – Jun. 2024 Waltham, MA
<ul style="list-style-type: none"><li>Contributed to backend development of ENOVIA document workflow platform within the 3DEXPERIENCE ecosystem, supporting regulatory compliance and enterprise collaboration</li><li>Designed and implemented <b>role-based access control</b> and audit logging for secure document approval and traceability</li><li>Supported and optimized an <b>API Gateway</b> for multi-system document synchronization and metadata retrieval, integrating authentication and routing rules to improve throughput by <b>28%</b></li><li>Introduced centralized <b>caching layer</b> and API rate limiting to enhance system scalability and prevent redundant access</li><li>Developed asynchronous job handlers using Java Servlet and MQL to process large-scale document import tasks</li></ul>	
<b>Software Developer Intern</b> <i>Rapid Micro Biosystems</i>	Jun. 2024 – Aug. 2024 Lexington, MA
<ul style="list-style-type: none"><li>Enhanced backend architecture of a laboratory imaging platform for automated petri dish image capture and data storage</li><li>Optimized schema by restructuring entity mappings and introducing partitioning strategy to accelerate data retrieval by 25%</li><li>Refactored legacy PHP codebase into modular service components and integrated automated data migration scripts in Bash, ensuring consistency across <b>1M+</b> image records and improving maintainability and release stability</li><li>Containerized development environment with <b>Docker</b> and Apache to replicate production configuration</li></ul>	
<b>Software Developer Intern</b> <i>Tatfook Technology Co., Ltd</i>	May. 2023 – Aug. 2023
<ul style="list-style-type: none"><li>Developed a responsive reporting dashboard for user-generated content analytics using <b>Next.js</b>, enabling real-time data visualization, trend tracking, and automated report generation for application users</li><li>Refined server-side rendering and API data fetching with <b>Axios</b>, reducing average page load time by <b>30%</b></li><li>Configured CI/CD pipelines utilizing <b>GitLab</b> for code uploads and <b>Jenkins</b> for seamless deployment</li></ul>	

## PROJECTS

<b>Flash Sale E-commerce Platform</b>	Oct. 2024 – Nov. 2024
<ul style="list-style-type: none"><li>Developed a high-concurrency flash sale system handling 10k+ QPS with <b>Redis</b> caching to minimize database pressure</li><li>Eliminated "Overselling" and race conditions by implementing Redis Lua scripting to execute atomic inventory checks and deductions, ensuring strict data consistency during peak flash sale events</li><li>Decoupled order processing via <b>Kafka</b> for asynchronous traffic shaping, protecting the database from write spikes</li></ul>	
<b>GeeCache</b>	Jun. 2024 – Jul. 2024
<ul style="list-style-type: none"><li>Implemented a distributed caching system in Go, developing both local in-memory cache and HTTP-based cache with <b>Least Recently Used</b> strategy, and improved inter-node communication using <b>protobuf</b></li><li>Employed <b>Mutex</b> locks to prevent cache breakdown and ensure data consistency under concurrent access</li><li>Integrated consistent hashing to select nodes, ensuring load balancing and efficient cache distribution</li></ul>	

## TECHNICAL SKILLS

<b>Programming Languages:</b>	Java, C/C++, Go, TypeScript, JavaScript, SQL, Python
<b>Frameworks:</b>	Spring Boot, Spring Cloud, React.js, Next.js, Express.js, Node.js
<b>Databases &amp; Caching:</b>	MySQL, Redis, MongoDB, PostgreSQL, DynamoDB, Kafka
<b>Cloud &amp; Tools:</b>	AWS, Docker, Kubernetes, Jenkins, Nginx, Git, Terraform