

Amelia Li

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EDUCATION

University of Pennsylvania	Philadelphia, PA
<i>Master of Computer Science (MCIT) - GPA: 4.0 / 4.0 - (Available to start immediately)</i>	<i>2023 - 2025 (Expected)</i>
North Carolina State University	Raleigh, NC
<i>Master of Financial Mathematics - GPA: 3.6 / 4.0</i>	<i>2011 - 2013</i>
Jilin University of Finance and Economics	Jilin, China
<i>Bachelor of Economics, Statistics - GPA: 3.9 / 4.0</i>	<i>2006 - 2010</i>

WORK EXPERIENCE

SkillUpIT	Ontario, Canada (Remote)
<i>Web Developer Intern</i>	<i>Dec 2023 - Jun 2024</i>

- Implemented Mid-year promotion feature, boosting system throughput by 100x from 500 QPS to 50k QPS using **Redis** and **RocketMQ**.
- Segregated monolithic order service into distinct Promotion and Order microservices following Domain-Driven Design principles with **Spring Boot**, **Spring Cloud** and **Consul**, streamlining operations generating future savings.
- Executed lock and inventory revert services with Try-Confirm/Cancel (TCC) protocol using **Redis** and **Lua Scripting**. Enhanced system's response during active promotions through cache preheating.
- Alleviated peak-load stress by creating orders asynchronously via **RocketMQ**. Optimized optimistic-lock mechanism for inventory updates within **MySQL** database.
- Maintained a robust **CI/CD** pipeline with **Jenkins**, containerized microservices with **Docker** in **Kubernetes** and deployed to Azure Kubernetes Service (**AKS**).
- Designed data schemas with ER diagrams; optimized **MySQL** queries with rollback to make atomic transactions.

Changchun Tianmier E-commerce CO., LTD	Changchun, China
<i>Software Engineer</i>	<i>Jan 2021 - Oct 2023</i>

- Developed a related product carousel, referral program, and hover-over promotion banners with **JavaScript**, **HTML**, **CSS** and **Bootstrap**; increased order value and conversion, modernizing features and to drive **18% visitor growth**.
- Led **design and code reviews**, collaborating with engineers and stakeholders throughout the Software Development Life Cycle (**SDLC**), contributing to 100K MAU growth.
- Translated business requirements into technical specifications and product roadmaps; applied **Scrum** methodology to manage sprint planning, stand-ups, and retrospectives.

PROFESSIONAL EXPERIENCE

Hack Reactor - 12-Week Immersive Program	<i>Jul 2023 - Oct 2023</i>
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- Developed backend for an e-commerce website with millions of products using service-oriented microservices architecture, utilizing **React** and **NodeJS**, maintaining a 0% error rate for uninterrupted user experiences.
- Implemented **RESTful APIs** for CRUD actions on **PostgreSQL** using **Node.js**, integrated Google Map API for geo info.
- Designed and implemented efficient data model and operations using **PostgreSQL**, optimized database with **CQRS** to improve data query processing time; Implemented **ETL** procedures for efficient data management.
- Realized **load balancing** with **NGINX**, reducing average response times from 4,500ms to less than 25ms.
- Integrated **caching** with LRU policy to handle 5k requests per second with sub-15 ms response time.

UnicornGo: Serverless Web Application	<i>May 2023 - Jul 2023</i>
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- Designed a serverless web application featuring ride requests and dispatching unicorns to riders nearby locations using **AWS Lambda** and **API Gateway**. Deployed the web application with **AWS Amplify**.
- Implemented **RESTful APIs** using AWS API Gateway and integrated them with **DynamoDB** to handle CRUD operations; optimized the APIs with pagination for efficient data retrieval.
- Enhanced security with email OTP and **JWT** using Amazon **Cognito**, providing two-factor authentication (2FA).
- Created an efficient data model in **DynamoDB** for rider and trip data, utilizing sparse indexing and enabling **Auto Scaling** for effective workload management.

SKILLS

Languages: Java, JavaScript (ES5 and ES6), TypeScript, Python, HTML5, CSS3, SQL

Frameworks & APIs: Node.js, Next.js, Express, React, React Native, JUnit, Firebase, RESTful API, Angular, Spring Boot

Database & Testing: MySQL, PostgreSQL, MongoDB, Jest, Mocha, Chai

DevOps & Tools: Docker, AWS, NGINX, Vim, Git, NPM, Webpack, Babel, Expo, CI/CD