Eliza(Siying) Liu

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EDUCATION

University of Alberta, *Master of Computing Science (GPA:4.0)* 09/2024 – 01/2026 | Canada

Northwestern Polytechnical University, 09/2020 – 06/2024 | China
Bachelor of Computer Science (GPA:3.8)

EXPERIENCE

ARC, University of Alberta, *Software Developer* 04/2025 – Present | Edmonton, Canada

- Developed an interactive data-driven web platform featuring real-time geospatial visualization of Indigenous community locations using **OpenLayers** and dynamic analytics dashboards built with **Chart.js**.
- Customized and extended Piranha CMS using **C#** and **.NET,** building reusable components and secure content APIs that integrate cleanly with existing backend services
- Utilized **PostgreSQL** and implemented **database sharding** to handle up to 50,000 logs per service per hour,optimizing storage and retrieval performance by 50%
- **Deployed** applications across **Azure** services with CI/CD pipelines, ensuring stable rollouts for public-facing online exhibitions and internal research tools.

Northwestern Polytechnical University, *AI Research Assistant* 10/2021 – 06/2022 | Xi'an, China

- Developed a production-grade text analytics system for financial news, including automated entity extraction and sentiment prediction to support real-time analysis.
- Developed Python-based data preprocessing and model-serving pipelines using Flask, delivering **scalable, secure, and high-throughput API workflows** for text–image inference tasks.
- Optimized **MySQL-backed** feature storage through schema tuning, batching, and caching, improving system reliability, latency, and data consistency for downstream ML services.

FangEn IT, *Software Developer* 10/2021 – 05/2022 | Xi'an, China

- Integrated **JWT**-based **authentication** and fine-grained role-based access control (RBAC) across services to strengthen **API security**
- Designed a scalable data layer with **Spring Data JPA** and table-partitioning logic to handle large analytical datasets; improved heavy-query performance by distributing data across partitions and applying targeted index strategies.
- Improved system reliability by introducing **asynchronous AI execution** (CPU-intensive thread pool + queue), **Redis-backed rate limiting**, and **RabbitMQ** for durable task persistence.

TECHNICAL SKILLS

Languages — Java, Python, TypeScript, JavaScript, C#, SQL,

Frameworks — .NET, Spring Boot, Node.js, Express.js, React, RESTful APIs

Developer Tools — Git, Linux, GitHub Actions, Jenkins, Docker, MS SQL Server, Swagger/OpenAPI