Lelin Zheng (She/Her)

zheng.lel@northeastern.edu | (206) 379-4339 | Seattle, WA | in/lelinzheng/ | lelinzheng.github.io/Lelin-Portfolio/

EDUCATION

Northeastern University   Sep 2024 – May 2027
M.S. in Computer Science, GPA: 4.0 / 4.0   Seattle, WA
Coursework:
Object-Oriented Design, Algorithms, Computer Systems, Database Management Systems, Cloud Computing, Distributed Systems, DevOps

TECHNICAL KNOWLEDGE

- **Languages:** Python, Java, C, JavaScript, HTML/CSS, TypeScript, SQL
- **Tools & Frameworks:** Spring Boot 3, Spring Cloud (Gateway, Eureka, Config), Resilience4j, Hibernate (JPA), Angular 18, React, Node.js, Express.js, Sails.js, EJS, Bootstrap, Flask, Django, PyQt6, Kubernetes, Linux/Unix, Git
- **Testing & Observability:** JUnit, Jest, Supertest , WireMock, Grafana Stack
- **Databases & Services:** MySQL, SQLite, MongoDB Atlas, AWS (S3, EC2, IAM)

RELEVANT WORK EXPERIENCE

Software Engineer Intern   May 2025 – Aug 2025
Jetsweat Inc.   New York, NY
- Built **10+ RESTful APIs** to surface user-level analytics and power a white-label admin toggle, enabling **50+ corporate partners** to gain insights while reducing **response latency by 40%** through optimized queries and connection pooling.
- Redesigned MySQL schema by adding an access-control column and enforcing role-based SQL queries to ensure **100% restriction** of unauthorized admin access to individual video engagement data, aligning with security best practices.
- Revamped the onboarding modal with **React**, using useState for step control and Redux to persist authenticated user context across views, improving recommendation personalization and driving a **25% increase in content engagement**.
- Enhanced the admin dashboard (JavaScript, Node.js, EJS, Bootstrap) with real-time engagement tracking and error surfacing, resolving **10+ production issues** and increasing active dashboard usage by **30%.**

High School Computer Science Teacher   Sep 2022 – Jun 2024
Calgary Board of Education, Crescent Heights High School   Calgary, AB
- Taught Computer Science to **100+ students** in grades 10 and 11, covering programming fundamentals, algorithms, procedural and functional programming, OOP in Python, and HTML/CSS for web development.
- Developed a Python-based scheduling application that efficiently organized a 10-team inter-school badminton tournament, reducing manual coordination time by over 80%.

PROJECTS

Tomato Tasks — Cloud-Native Web & Mobile Productivity Platform
- Deployed a cloud-native **AWS** architecture with Dockerized Spring Boot services on **EC2** behind **Nginx** and a React web client hosted on **S3**, using GitHub Actions **CI/CD** to cut deployment time by **70%** and achieve **99.9%** uptime.
- Designed a stateless security and API layer with **JWT** authentication, role-based access control, and versioned REST endpoints, enabling safe multi-client access across **web and mobile** platforms.
- Improved operational reliability and performance by offloading static assets to **S3**, tuning **Nginx** reverse proxying, and leveraging CloudWatch metrics, cutting page load times by **50%** and API latency by **35%.**

NextGen-Online-Shop: Spring Boot 3 Microservices Online Shopping Platform
- Architected four Spring Boot microservices (Order, Inventory, Product, Notification) behind Spring Cloud Gateway with Eureka and Resilience4j, containerized in **Docker** and deployed on **Kubernetes**, achieving **99.9% availability**.
- Implemented **Apache Kafka** for asynchronous order processing and real-time inventory updates, reducing service coupling and improving throughput by **40%;** Built observability with Prometheus, Grafana, Loki, and Tempo for metrics, logs, and traces, cutting mean time to resolution by **50%.**
- Validated microservices with **Testcontainers** and WireMock, running integration tests against ephemeral databases, Kafka clusters, and mocked APIs, boosting test coverage and reducing defect leakage by **50%**.

Qualcomm On-Device AI Hackathon: AI-Powered Narrative Connect Four (2nd Place Winner)
- Engineered a **PyQt6 GUI** with multi-threaded event handling for a responsive and interactive **LLM-integrated** Connect Four game experience, featuring dynamic UI updates and real-time **AI narration**.
- Integrated **local LLM inference via Ollama (Mistral-7B)** with game logic algorithms (minimax with alpha-beta pruning), implemented speech-to-text feature using **OpenAI Whisper** increasing player-AI interaction by **75%**.