

Lelin Zheng (She/Her)

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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, React, Node.js, Express.js, Sails.js, Bootstrap, Tailwind CSS, Flask, Django, PyQt6, Docker, Kubernetes, RabbitMQ, Linux/Unix, Nginx, Git
- **Testing & Observability:** JUnit, Jest, Supertest, WireMock, Grafana Stack
- **Databases & Services:** PostgreSQL, MySQL, SQLite, MongoDB Atlas, AWS (EC2, S3, IAM, CloudFront, SQS)

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

Distributed CI/CD Orchestration Platform — Spring Boot + Kubernetes

- Architected a distributed CI/CD platform using **Spring Boot microservices** (API Gateway, Execution, Report) with **RabbitMQ for asynchronous task execution**, idempotent job handling, and circuit breaking to improve fault tolerance and ensure reliable pipeline processing under concurrent load (100+ parallel runs tested).
- Containerized services with **Docker** and deployed to **Kubernetes** with horizontal pod autoscaling, enabling independent service scaling and reducing API response latency to **<100ms** by offloading long-running jobs to background workers.
- Built a CLI with local validation against Git-based YAML configs, integrated Docker-based pipeline execution, and designed a shared **PostgreSQL** schema with clear write/read ownership boundaries for consistent reporting.

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 reliability and performance by serving static assets through **CloudFront CDN**, tuning Nginx reverse proxying, and monitoring CloudWatch metrics, reducing page load times by **50%** and API latency by **35%**.

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%**.