Lelin Zheng (She/Her)

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EDUCATION

Northeastern University Sep 2024 – Dec 2026
***M.S.** in Computer Science*, GPA: 4.0 / 4.0 Seattle, WA
Relevant Coursework: Computer Systems, Algorithms, Object-Oriented Design

University of Alberta
***B.Ed**. in Education with Distinction*, GPA: 3.8 / 4.0 Sep 2020 – May 2022
***M.S.** in Materials Engineering*, GPA: 4.0 / 4.0 Sep 2017 – May 2019
Edmonton, AB

TECHNICAL KNOWLEDGE

- **Languages:** Python, Java, C, HTML/CSS, JavaScript, SQL
- **Tools & Frameworks:** Git, Linux/Unix, Java GUI (AWT & Swing), Tableau, PyQt6, Flask, Django, JUnit, Node.js, Express.js, EJS, Bootstrap, Passport.js
- **Databases & Services:** MySQL, SQLite, MongoDB (Atlas), Mapbox, Cloudinary, Render

RELEVANT WORK EXPERIENCE

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 10^{th}/11^{th} grade covering programming fundamentals, algorithms, procedural and functional programming, **OOP** in **Python**, and **HTML/CSS** for web development
- Achieved a 15% improvement in student grades through tailored instruction and engaging programming assignments, fostering a deeper understanding of computer science fundamentals.

Research Assistant Oct 2019 – Sep 2020
University of Alberta Edmonton, AB
- Analyzed data from over 200 tensile, UV degradation, and compression tests to understand degradation patterns.
- Developed an end-of-life sensor for textiles that delivers warnings at 50% and 80% deterioration thresholds.

PROJECTS

Qualcomm On-Device AI Hackathon: AI-Powered Narrative Connect Four (2nd Place Winner) March 2025
Northeastern University & Qualcomm Technologies & Microsoft
- Engineered a **PyQt6-based GUI** with **multi-threaded event handling** for a responsive and interactive **LLM-integrated** Connect Four 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 **(Whisper ASR)** for AI-driven commentary of seamless offline experience.

Camp Review – Full-Stack Web Application for Campground Discovery & Reviews March 2025
Personal Project
- Developed a full-stack campground review app using **JavaScript, Node.js**, **Express.js**, **MongoDB Atlas**, **EJS**, and **Bootstrap**; included secure authentication via **Passport.js** and responsive user profiles.
- Integrated **Mapbox** for real-time campground mapping and **Cloudinary** for dynamic image storage, deploying the production-ready server on **Render** for scalability and reliability.

Gesture-Based Music Creation App in Java Sep 2024 – Dec 2024
Northeastern University
- Designed and implemented an interactive **Java GUI (AWT/Swing)** for gesture-based music composition, achieving 90% recognition accuracy using bounding boxes, subsampling, and coordinate transforms.
- Applied **OOP principles** across 20+ Java classes, increasing music composition efficiency by 60% and enhancing modularity by 40% through refactoring, serialization, and reusable components.

Job Application Form – Flask Web App Nov 2024 – Dec 2024
Personal Project
- Built a full-stack job application platform using **Flask**, **SQLite**, and **Jinja2**, enabling users to submit personal details with **flash messages** to provide real-time feedback upon successful submission.
- Designed a responsive and dynamic UI with **Bootstrap 5**, leveraging **Jinja2** templating for seamless HTML rendering and **SQLite** for efficient data storage and retrieval.