

# Lelin Zheng (She/Her)

[zheng.lel@northeastern.edu](mailto:zheng.lel@northeastern.edu) | (206) 379-4339 | Seattle, WA | [in/lelinzheng/](https://github.com/lelinzheng) | [lelinzheng.github.io/Lelin-Portfolio/](https://lelinzheng.github.io/Lelin-Portfolio/)

## EDUCATION

### Northeastern University

**M.S. in Computer Science**, GPA: 4.0 / 4.0

Relevant Coursework: Object-Oriented Design, Computer Systems, Algorithms

Sep 2024 – Dec 2026

Seattle, WA

### University of Alberta

**B.Ed. in Education with Distinction**, GPA: 3.8 / 4.0

**M.S. in Materials Engineering**, GPA: 4.0 / 4.0

Sep 2020 – May 2022

Sep 2017 – May 2019

Edmonton, AB

## TECHNICAL KNOWLEDGE

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

## RELEVANT WORK EXPERIENCE

### High School Computer Science Teacher

Calgary Board of Education, Crescent Heights High School

Sep 2022 – Jun 2024

Calgary, AB

- Taught Computer Science to 100+ students in 10<sup>th</sup>/11<sup>th</sup> grade covering programming fundamentals, algorithms, procedural and functional programming, **OOP in Python**, and **HTML/CSS** for web development
- Improved student grades by 15% through tailored instruction, project-based learning, and effective communication of complex programming concepts

### Research Assistant

University of Alberta

Oct 2019 – Sep 2020

Edmonton, AB

- Analyzed data from 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

### Task Master: Full-Stack To-Do List

Personal Project

April 2025

- Developed a full-stack task management app using **React**, **Node.js**, **Express.js**, **MongoDB Atlas**, and **Bootstrap**, featuring **JWT authentication**, protected routes, and **RESTful APIs** for full CRUD functionality.
- Tested backend with **Jest** and **Supertest**; deployed frontend on **Vercel** and backend on **Render**, with environment configuration via **dotenv** for secure production readiness.

### Qualcomm On-Device AI Hackathon: AI-Powered Narrative Connect Four (2nd Place Winner)

Northeastern University & Qualcomm Technologies & Microsoft

March 2025

- Engineered a **PyQt6-based 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 (**Whisper ASR**) for AI-driven commentary for a seamless offline experience.

### Gesture-Based Music Creation App in Java

Northeastern University

Sep 2024 – Dec 2024

- 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

Personal Project

Nov 2024 – Dec 2024

- 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.