Lelin Zheng (She/Her)

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# Education

**Northeastern University**  Sep 2024 – Dec 2026

*Master of Science in Computer Science*, GPA: 4.0 / 4.0

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

**University of Alberta**

*Bachelor of Education with Distinction*, GPA: 3.8 / 4.0 Sep 2020 – May 2022

*Master of Science in Materials Engineering*, GPA: 4.0 / 4.0 Sep 2017 – May 2019

# Technical Knowledge

# Languages: Python, Java, C, HTML/CSS, JavaScript

# Tools & Frameworks: Git, Java GUI (AWT & Swing), Linux/Unix, Tableau, PyQt, Flask, Django, JUnit

# Databases: MySQL, SQLite

# 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+ grade 10/11 students, 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

***LLM Game Master – Qualcomm & Microsoft On-Device AI Builders Hackathon*** March 2025

## Northeastern University,

* Developed LLM Game Master —an offline desktop app featuring 4 classic text-based games powered by a local TinyLlama LLM via ONNX Runtime for real-time conversational gameplay.
* Engineered asynchronous game logic using **Python** asyncio, built a responsive **PyQt6** UI, and integrated Whisper for voice interactions, showcasing seamless on-device AI performance and dynamic user feedback.

***Gesture-Based Music Creation App in Java*** Sep 2024 – Dec 2024

## Northeastern University

* Developed an interactive GUI for composing music through gesture recognition, utilized 20+ classes to model musical elements such as notes, bars, and staff, enhancing user engagement beyond button-based inputs.
* Applied robust **OOD** principles to integrate gesture-recognition tools within the **AWT/Swing framework**, achieving a 60% increase in composition speed and establishing a modular, flexible architecture for future enhancements.

***Climate Resiliency Hackathon*** Oct 2024

## Northeastern University

* Analyzed five multi-layered data, including socioeconomic and environmental risk factors, to pinpoint optimal emergency shelter locations in King County for over 10,000 high-risk community members.
* Created interactive visualizations using **Tableau** to reveal correlations between extreme weather risks and community vulnerability, supporting data-driven decisions-making.

***Digital Family Tree: An Application of Graph Data Structures*** Nov 2024 – Dec 2024

## Northeastern University

* Developed a **Python**-based application to create and explore family trees with up to 50+ members.
* Implemented features such as relationship search using the BFS algorithm, graph visualization with **NetworkX**, and **JSON**-based data storage.