JIAYING (ALISON) LAI

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Education

Master of Science in Computer Science	**Expected: May 2025**
Northeastern University, GPA: 4.0/4.0	*Seattle, WA*
Master of Arts in Translation and Localization Project Management	**May 2023**
Middlebury Institute of International Studies at Monterey, GPA: 3.9/4.0	*Monterey, CA*

Relevant Coursework

- Algorithms
- Data Structures
- Object-Oriented Programming
- Database Management
- Software Development
- Computing System Principles

Technical Skills

Back-end: Python, C++, Java, R, FastAPI, Express.js, Node.js
Front-end: CSS, HTML5, JavaScript, React.js, Next.js, TypeScript
Database: MongoDB, mySQL, Amazon DynamoDB, PostgreSQL
OS and Tools: Linux, Git, IntelliJ, VS Code, CLion, Postman, Docker

Projects

Fullstack Personal Portfolio Website | Javascript, Node.js, React.js, CSS, HTML — **Mar 2024**

- Built an interactive and responsive personal portfolio website using **React.js**, **Bootstrap**, and **RxJS**.
- Implemented dynamic navigation and call to action buttons using **RxJS** to improve user flow and experience.
- Designed a full-stack application by utilizing **Node.js** with Node Mailer for seamless email communication.

Temperature Monitoring System | AWS, Amazon DynamoDB — **Jan 2024— Apr 2024**

- Created an integrated database using **Amazon DynamoDB** for scalable data storage and employing **AWS** cloud services for application hosting.
- Developed **AWS Lambda** functions in **Python** for serverless API endpoints, enabling scalable system interaction with the database and data retrieval.
- Created a user friendly dashboard with **JavaScript** and **React** that displays real time temperature and air quality data, that visualizes performance trends using interactive graphs and allows users to download datasets.

AI Based Gomoku Game Application | Python, React.js — **Nov 2023**

- Engineered a responsive Gomoku board game interface using **React**, integrating advanced game models, GUI controllers, and MVC architecture to ensure dynamic difficulty adjustment and scoring.
- Enhanced AI performance through strategic algorithm optimizations based on predictive analytics and positional heuristics, and an advanced priority system evaluating potential moves in all directions.

Gesture Based Music Notation System | Java — **Nov 2023**

- Developed a music notation editor with gesture recognition following **Object Oriented Design** principles, allowing users to create and adjust musical scores intuitively through a GUI.
- Implemented real-time interactive features for note placement and editing.

Work Experience

Graduate Research Assistant — **Sep 2022– May 2023**
Neural Machine Translation; Supervisor: Prof. Adam Wooten — *Middlebury Institute of International Studies*

- Compiled datasets totaling 19,000+ segments from BBCs Series subtitles for domain specific training, boosting model accuracy and consistency.
- Enhanced translation and interpretation model via systematic clean up and alignment of text data, leveraging tools like SDL Trados and Olifant for process optimization.
- Conducted training with Microsoft Custom Translator and SYSTRAN, raised BLEU score (evaluation of machine translated text) by 3.09.

Program Manager — **Jan 2021– Jan 2022**
Wonderful Sky Financial Group Limited, Hong Kong   .

- Managed translation projects keeping to both time and budget set up and monitored production schedule.
- Delivered high quality machine translated/post edited texts and updated term bases for system consistency.