

YIHE LI

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Education

University of Toronto, BS in Computer Science (GPA: 3.97) (2023-now)

Awards and Achievement:

- New College Council In-Course Scholarship(2024), awarded by University of Toronto.
- University of Toronto Excellence Award (UTEA 2025)

Experience

Undergraduate Researcher – University of Toronto Excellence Award (UTEA) May 2025 – now

ExploRIEL: A Linguistically-Informed RPG for Language Learning and Visualization(TMLS 2025 project)
<https://github.com/Robertlyhh/LinguaQuestGame>

- Worked as the **teamlead** and **main developer** designed and developed a gamified educational platform in Unity that integrates the URIEL+ linguistic typology dataset to visualize global language relationships.
- Implemented interactive mini-games (syntax shuffle, feature matching, multiple-choice quizzes) to teach linguistic concepts in an engaging RPG environment.
- Built modular systems for scene transitions, boss battle sequences, and checkpoint respawns to support exploratory gameplay mechanics.
- Applied user-centered design principles to prototype a proof-of-concept supporting second language learning and typology awareness.
- Tools: Unity, C#, URIEL+ database, TextMeshPro, Git, Blender.

Projects

A full stack developed image gallery website (Personal Project) [Robertuoftcs/roberimage](https://github.com/Robertuoftcs/roberimage)

- Developed a image gallery website where people can search for images or grab random images using React framework, TailwindCSS, NextJs for frontend, NextJs for backend.
- Deployed the site on Vercel, ensuring high availability and seamless global access.

Scrabble game(Team Project implementing both backend and frontend) [WithComment/scrabble](https://github.com/WithComment/scrabble)

- A course project using **Java** for backend to support the logic of the multiplayer wordle game.
- Using **JavaScript**, **css**, **html** and **React** framework for frontend to show real time game board and score rank.

Food classifier(Personal Project) [Robertuoftcs/Food_classifier](https://github.com/Robertuoftcs/Food_classifier)

- Designed and implemented a neural network to achieve food classification.
- Processed raw data with feature engineering and ensured model robustness through metrics like precision, recall, and F1-score.

Stock market analysis App(Personal Project) [Robertlyhh/data_analysis](https://github.com/Robertlyhh/data_analysis)

- Built a Python-based data analysis program capable of automated stock data retrieval and simulation.
- Utilized machine learning models(timeseries,scikit-learn) for predicting stock trends and performing probabilistic analysis of risks and returns.
- Enhanced program performance through optimized NumPy calculations and efficient data handling.

AI Pong game agent(Personal Project) [Robertlyhh/AI_pongGame](https://github.com/Robertlyhh/AI_pongGame)

- Through real-time simulation in PyGame, enhanced the AI's decision-making process by reinforcement learning.
- Trained an AI game agent trained using the NEAT algorithm in Python.