

# Alex Li

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Website: <https://1liale.github.io/PersonalWebsite/>

## Summary of Qualifications

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**Languages:** Java (2 years) / Python (9 months) / C#, C++ (7 months) / HTML, CSS, JS (4 months)

**Technologies:** Git / NoSQL / MySQL / ROS / CAD / 3D Printing / Bash / Linux / Vim / Unity Game Engine /  
Firebase / Arduino / Raspberry Pi / IoT / REST API / Open Source /

## Education

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2020 - 2025

**Bachelor of Computer Science** - *University of Waterloo, Waterloo, ON*

- President's Scholarship of Distinction | Term Distinction

## Projects

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### Personal Website

- Designed a website with clear, visually appealing UI using **HTML5**, **CSS**, and **Javascript**
- Created my own **REST API** to handle web scraping for inspirational quotes and requests to the **Firestore NoSQL database** using **Nodejs**, **Express**, and **Cheerio**.
- Accessed the **Firebase API** to sync data to Firebase's **real time database**, tracking the amount of time users spend per section and displaying related data using **Google Charts**.

### BlackJack-Trainer

- Created an educational program in **Java** to train users at the card game BlackJack using card-counting and basic strategies.
- Applied **Object Oriented Programming** to organize game elements into a structured hierarchy and implemented **FileIO** to read the basic strategy chart stored in a text file.

### EvolutionGame AI

- Created a 2D **Python** game using the **PyGame** module and modelled a **neural network** using the **Numpy** library to experiment with game design in python.
- Explored ML using the **Genetic Algorithm** to modify the weights and biases of the network.

### RollingBall Game

- Created a clean, engaging windows desktop game where users control a ball rolling down a hill to collect coins and avoid obstacles along the path.
- Developed the game using the **Unity Game Engine** with scripts coded in **C#** and custom-made game assets, including satisfying ball collision animations made with the help of **Blender**.

## Work Experience

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August 2018 - March 2020

### YMCA Lifeguard and Instructor, Oakville, ON

- Demonstrated positive leadership, responsibility and decision making skills when creating weekly lesson plans to instruct patrons at the YMCA.
- Communicated effectively with patrons and staff, with emphasis on teamwork and initiative, to deliver a cohesive and safe work environment.