

Zhiyu Li

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Summary of Qualifications

- **Programming Languages:** Python, Java, JavaScript, C++, C#, HTML, CSS, SQL
- **Tools:** Git, Linux, Microsoft Office
- Strong problem-solving skills via technologies, cooperative skills, and self-study skills.
- Ability to work in a fast-paced environment.

Education

Bachelor of Science

Sept. 2016 - Jun. 2021

University of Toronto

Major: Computer Science, Cognitive science

Minor: Linguistics

Upper-level courses: Interactive Computational Media Design

Introduction to artificial intelligence

Computer organization

Data Structure & Analysis

Cognitive Neuroscience

Programming on the Web

Academic Projects

TreeMap Visualizer *File management system*

Python, PyCharm, PyGame

- Designed and developed a visualizer that generates an interactive treemap visualization for any filesystem;
- Included functionalities and features such as changing file sizes, open or close directories, and insert or delete files and directories;
- Modeled different kinds of the real-world hierarchical dataset using the program in a tree data structure to generate their TreeMap thus improving the readability of large datasets.

Reversi Game AI player *game tree search algorithms*

Python

- Designed an artificial intelligent player to play reversi with more than 75% win rates;
- Utilized Mini-Max algorithm with Alpha-Beta pruning, which speeded up decision making by a large margin, the program can calculate the best move in 8 seconds;
- Further designed an original heuristic that improved the play speed by about 10%.

Automotive Manager *warehouse inventory backend*

Java, Git, Eclipse, UML diagram

- Designed and implemented management system using Java, git, and UML diagram;
- Developed optimized routes for incoming orders by utilizing greedy algorithms and priority queues;
- Maintained and updated multiple iterations of version via git, also conducted unittest for refactoring code and upgrade the system.

Photo Editor *bitmap processing application*

C, Linux, Git, Bitmap

- Built a pipeline software to manipulate bitmap pictures;
- Multiple filters can be applied on the input image, such as gaussian blur, enlarge and greyscale;
- Implemented a master program that allocated resources for multiple filters applied to the input, which added convenience to the user interface for enhanced experiences.