Andy(Liang) Zhang

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EDUCATION

University of Minnesota, College of Liberal Art, Minneapolis, MN

Bachelor of Arts, Computer Science

May 2022 GPA: 3.5

WORK EXPERIENCE

University of Minnesota IT Remote Support, Minneapolis, MN

Nov 2021-Jan 2022

- Provide guidance to students and facilities on how to operate school software
- Perform troubleshooting to diagnose and resolve problems
- Identify and resolve accounts' problems

MnTAP Web & Data Management Assistant, Minneapolis, MN

May 2021-Oct 2022

- Manage client's information using Salesforce
- Update MnTAP webpage using WordPress
- Contributed to the Pneumatic to Electric Tool Cost Calculator

PERSONAL PROJECTS (Agile Development)

Discord Music Bot (GitHub)

Dec 2021–Jan 2022

- Using discord bot API creates a bot that joins a channel, plays music in queue, and leaves the channel
- Using **Spring dependency injection** to handle the bot commands
- Using **Gradle** to automate the creation of the bot application

Al Sudoku Solver (GitHub)

Jul 2021-Aug 2021

- Using Backtracking Search to produce the solution of the Sudoku Puzzle
- Using Pygame library to create the user interface of the application

Double Pendulum Simulator (GitHub)

Aug 2021-Sep 2021

- Using the equations of motion to mimic the physic of the double pendulum
- Using **Pygame** library to create the user interface of the application

ACADEMIC PROJECTS (Agile Development)

Al Rescue Drone on The UoM Campus (GitHub)

Oct 2021-Dec 2021

- Using UML diagram tools to complete an AI Rescue Drone software
- Using Pico JSON to preprocess the text data to produce a node graph
- Using Façade Pattern to hide the complexity of the program and provide an easier interface to access the system
- Using Strategy Pattern to alter the search method between BFS, DFS, and A* Search
- Using the Canny Edge filter from the Image Filters class to determine the rescue object

Image Filters (GitHub)

Sep 2021-Oct 2021

- Using inertance to construct different image filters
- Using C++ to construct the double threshold filter, gaussian blur filter, Sobel filter, pixelation filter, and canny edge filter

Client/Server Word Counts of Different Lengths (GitHub)

Feb 2021-Apr 2021

- Using C to perform MapReduce programming model on a single machine to count the word lengths
- Using multi-threads to generate the clients to read each of the files in a roundabout fashion and send counts to the server
- The server will return the count result of each client request back and output the results in a log file

SKILLS

- Languages: English, Mandarin Cantonese, Japanese
- Technical: Git & GitHub, Unix, VSCode, MSExcel, Salesforce, WordPress
- Web & Database: HTML/CSS, NodeJS, MySQL, Spring Boot, ReactJS
- Programming: Java, JavaScript, Python, C++, C#, C, R, Ocaml