AMY LIANG

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TECHNICAL SKILLS

- **Languages:** Python, Java / Groovy, C, JavaScript / TypeScript, HTML, CSS, Lua, MIPS Assembly
- **Frameworks / Databases:** Angular, Express.js, MySQL / SQLite / PostgreSQL, MongoDB, Firebase Realtime
- **Environments / Tools:** Git, Node.js, Docker, Android Studio, Jira, Wireshark, Postman, Bash / Unix / Linux
- **Design / Documentation:** Illustrator, Photoshop, Microsoft Office, Confluence

EDUCATION

Honours Bachelor of Science, Computer Science Co-op   Sep 2020 – Present
University of Toronto, Toronto, ON

- **Awards:** University of Toronto Entrance Scholarship, Dean's List 2021
- **Culminative GPA:** 3.3/4.0
- **Related Courses:** Programming on the Web (completed and became Teaching Assistant)

WORK EXPERIENCE

Course Teaching Assistant   Sep 2023 – Dec 2023
University of Toronto, Toronto, ON

- Participated in meetings with other teaching assistants and the professor to discuss upcoming student tasks and how to make the course better, receiving the highest evaluation at the end of the course
- Aided students with labs and assignments during practical and office hours, helping over half the students assigned to my timeslot complete their tasks
- Graded over 90+ students' labs and assignments, as well as gave feedback on project milestones and the final product within given deadlines

Developer Co-op   Sep 2022 – Dec 2022
RBC, Toronto, ON

- Implemented JavaScript scripts and regex filters in ServiceNow, decreasing chance of error and increasing platform efficiency
- Developed a mobile version of an internal application called MyMarketplace with a cross-functional agile team, increasing employee travel productivity and improving accessibility to tasks and requests
- Participated in stand-ups and presented mobile application to RBC executives and internal employees, receiving overwhelmingly positive feedback on project

DevOps Engineer Co-op   Jan 2022 – April 2022
Innovapost, Toronto, ON

- Wrote Groovy scripts for Jira and Confluence ScriptRunner and for command line using their REST API, automating monthly manual processes and increasing work efficiency
- Administered Jira and Confluence and completed service requests for Canada Post employees in a hybrid Scrum-Kanban team, increasing productivity and improving organization of projects and tasks
- Created monthly KPI reports using Confluence, Jira filters and PULSE event search, enhancing month-end review and keeping a systematic record of team activities

PROJECTS

Langchain Fork   Fall 2023

- Contributed to an open-source Python LLM framework and solved an issue by creating a new Langchain agent for MongoDB queries using MongoEngine and OpenAI models, and pull request was merged into a main repository branch by maintainer

Limeade Web Application   Summer 2023

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- Built an application for a social event platform that allows users to have different accounts based on payment level, event creation, as well as additional features such as chat and advertising
- Implemented the frontend of the application using Angular (TypeScript) and complex CSS styling, including flex, animations and transitions
- Designed a backend with Node.js, Express.js, and MongoDB with Mongoose as ODM that implements a search feature based on Jaro-Winkler distance

Pintos Operating System   Summer 2023
- Completed an operating system using C, completed all required functionality including synchronization, multi-threading, virtual memory and file system

MyBnB Application   Summer 2023
- Constructed an AirBnB knockoff using Java, MySQL through JDBC prepared statements and scripts, and implemented a simple command line interface

AR Audio Visualizer
- Developed a web application that allows users to log in and create AR visualizations for their audio, recorded through microphone or through uploading files
- Utilized Three.js, A-Frame and AR.js to create beautiful 3D graphics in augmented reality that moves and changes according to frequencies and decibels within the audio
- Designed the frontend with Angular and Bootstrap, and implemented a RESTful backend using Node.js, Express.js and PostgreSQL
- Deployed using an Ubuntu VM using Docker, Nginx as reverse proxy and a certificate from Let's Encrypt

Small Web Projects   April 2022 - Feb 2023
- Created a simple website to hold a resume and portfolio using HTML, CSS and JavaScript for a co-op course
- Constructed a single-page gallery application that uses Node.js, Express.js and SQLite to allow users to comment on, delete and add images to their gallery
- Coded a simple audio visualizer example that can switch between waveform, bar and pulsing circle graphics according to decibel values of frequencies

Traffic Racer Game   Summer 2022
- Constructed a single-player car racing game using assembly language, and implemented randomization and features like item collection for increased playability
- Designed sprites, UI and colour palette with graphic design principles and visual cleanliness in mind and acquired positive feedback for appearance of game

Appointment Booking Application   Summer 2021
- Developed a mobile Android application using Java and XML to book doctors' appointments, create accounts for users and check schedules
- Debugged and performed unit and interface testing using JUnit and Espresso on the application, creating seamless and safe-to-use code
- Using Object-Oriented Programming principles and the Model-View-Presenter design pattern, group members created organized and clean code
- Stored data in a Firebase database and used asynchronous functions to call the information, making for flexible storage and an uncluttered workspace

Via Viridis Game   Nov 2020

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- Programmed a prototype game using Lua, shortening period of planning and learning TIC-80 and Lua through creation
- Developed memorable character sprites and setting art that were complimented for their creative appearance

Team Battle Game   Dec 2019 – Feb 2020
- Used Java and JavaFX to code mechanics and GUI of a player vs player or player vs AI team battle game in the style of Pokemon
- Managed a three-month Java project with specific deadlines and meetings aligning with the Software Development Life Cycle (SDLC), and received commendations for completing more of the game than was predicted to be done