Zixuan(Irene) Li

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WORK EXPERIENCE

Course Producer(Undergraduate Teaching Assistant), USC Viterbi School of Engineering Sep2019-Present

Goal: Work closely with professors for 600+ hours including holding office hours for 350+ hours, grading assignments, and in-class discussions for 50+ hours; Help 150+ students on debugging and understanding algorithms.

- Introduction to Computer Systems Aug 2020-Present
- Professional C++ Aug 2020-Present
- Data Structure and Object-Oriented Design Jan 2020-July 2020

Research Assistant, Interaction Lab, USC Oct 2019-Present

Goal: Explore how robots and people establish, maintain, and repair trust in Multi-Party Human-Robot Interaction

- Preprocessed MP datasets with timestamp offsets, one-hot encoding and feature selection to improve accuracy.
- Visualized and evaluated results of the RNN and LSTM models with matplotlib to find fitter hyperparameters.
- Summarized details in 20+ previous publications in CRNN, Multi-Party, and turn-taking; Annotated 350+ minutes of experiment recording.

Goal: Design and develop a QT robot to support conversation in a cancer support group

- Designed logic flows and improved the NLU model to correctly distinguish and predict patients' intents and provide reasonable and appropriate responses; Successfully reached an overall accuracy of 80% and 90%+ on certain topics.
- Led and cooperated with another two team members to ensure successful and timely task completion.

EDUCATION

University of Southern California Overall GPA: 3.90

Bachelor of Science in Computer Science Jan 2019-May 2021

- Viterbi Dean's List Academic Achievement Award

Master of Science in Computer Science May 2021-May 2022

Relevant School Coursework: Professional C++, Software Engineering, Introduction to Artificial Intelligence, Introduction to Computer Systems, Video Game Programming, Introduction to Algorithms and Theory of Computing, Probability Theory

PROJECTS

Stock Portfolio (Java Group web project) https://github.com/lizirene/310-groupp November 2020

- Collaborated with 4 teammates to design and develop a web application that can help users track the value of their stock portfolio over time and make investment decisions.
- Focused on **Backend Database** and **Testing**, wrote cucumber features and tests for Frontend and refactored encountered errors, guaranteed 100% coverage for all files.

ProCC Compiler & Virtual Machine (C++) https://lizirene.github.io/projects/ProCC_Compiler.html April 2020

- Developed a compiler that can read and convert ProCC high-level language into ITP-11 assembly.
- Implemented a virtual machine for the imaginary ITP-11 computer system with the Turtle Processing UnitTM to execute code generated from the compiler, which features 15 32-bit registers, 1 KB of stack space, and 3-bit color graphics.

Parkour's Edge (C++) https://lizirene.github.io/projects/Parkour_Egde.html April 2020

- Remade a first-person 3D parkour game in which players can run, jump, climb and run on walls, collect coins with BGM.

Travelling Trojan (C++) February 2020

- Designed and implemented Genetic Algorithm to select the best tour of the landmarks in Los Angeles.

Hangman (Java) November 2019

- A multithreading word-guessing game that supports single/multi-player playing simultaneously.
- Players can create/join a game with special room keywords/passwords and the records will be updated to Google Cloud SQL.

SeCurethatA! (Java Group web project) October 2019

- Designed the entire architecture and collaborated with 5 teammates to build a website for students to upload their actual grades, get personal recommendations based on search results, and browse grading history for each course/term/professor.
- Worked on **Backend** to code, optimize, and refactor the Register page, Login page, Upload page and Details page which displays and updates related information based on user's choice.
- Collaborated with another teammate on the multi-threading notification feature.

TECHNIQUES & SKILLS

Programming Languages: C++ (professional), Python, Java, HTML, CSS, JavaScript, MySQL
Software Packages/Systems: matplotlib, pandas, NumPy, TensorFlow, Jupyter; Bootstrap, jQuery; Linux, Docker, VM, git
Cloud Computing: Google Book API, Google Map API, Google Graph API, Google Cloud SQL
Mathematics: Probability Theory, Linear Algebra and Differential Equations, Multivariable Calculus
Logical reasoning: Discrete Methods in Computer Science (rank **#4**), Introduction to Algorithms and Theory of Computing
Soft Skills: critical thinking, curiosity, trouble-solving trouble-shoot, leadership, time management, communication, teamwork