Zixuan(Irene) Li

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

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; Design and develop a robot to help patients with oncology with psychological problems including distress and anxiety;

- Training and looking for the fittest NLU model to correctly distinguish and predict patients' intents and provide reasonable and appropriate responses.
- Visualized and evaluated results of the RNN and LSTM models with matplotlib to find fitter hyperparameters.
- Refactored MP HRI datasets by offsetting timestamp mismatches and processing data with pandas to improve accuracy.
- Summarized details in 20+ previous publications in CRNN, Multi-Party, and turn-taking; Annotated 350+ minutes of experiment recording.
- Led and cooperated with another two team members to ensure successful and timely task completion.

PROJECTS

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.

Pac-Man Game (C++) https://lizirene.github.io/projects/Pac_Man.html February 2020

- A video game using A* for 4 AI ghosts pathway and ghosts can change their states automatically based on player's moves.

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, debug, optimize, and review 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.

Twitter Project (C++) July 2019

- Rebuilt a Twitter shell that performs perfectly in tweet, follow, mention, trending, search in hashtags.

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