

Yi-Ju, Tsai

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EDUCATION

B.S. in Computer Science

University of California, Irvine, CA

Overall GPA: 3.78/4, GPA in Major: 3.82/4 (Dean's Honor List)

Sep 2018 – March 2022

TOOLS

Technical skills: Python, C, C++, Assembly, MySQL, HTML, R, LaTeX

Documentation: MS Word, PowerPoint, Excel

COURSEWORK

Calculus, Boolean Algebra & Logic, Discrete Math for CS, Linear Algebra, Data Structure and Algorithm, Computer Organization, Software Engineering, Information Retrieval, Artificial Intelligence, Data Management, HCI, Computer Networks, System Design, Data Mining, Information Visualization

PROJECTS EXPERIENCE

Build Search Engine (Python)

- Built the inverted index from the tokenizer where the tokenizer has the functionality of removing stop words, identifying tokens using RegEx
- Wrote a search engine that's capable of handling huge number of documents/web pages and returning the top 5 relevant pages (URLs) in 200ms based on the tf-idf calculation and cosine similarity measure
- Designed the GUI for our search engine, and facilitated team meetings to communicate project status

Othello AI (C++) / Checkers AI (Python)

- Wrote AIs that were capable to choose reasonable moves by the tree-based, MCTS, UCB algorithm
- Applied optimizations to AIs, including strengthening the evaluation function and did simulation to help modify the function and boost the win rate

Networked Client/Server Application (C)

- Wrote client and server programs which can run as two separate processes invoked by the user in a shell
- Applied the knowledge of socket and connections to complete the program that can receive the query and respond with a message containing the requested information

Data Structure & Machine Learning

- Demonstrated proficiency with algorithms and data structures through implementations of linked lists, hash tables, AVL trees, priority queues, BFS, DFS etc.
- Utilized SQL to create a database as well as code procedures, views, triggers, and queries
- Trained a Random Forest/Neural Network model through optimizing the hyperparameters such as max depth/iteration, min split, hidden layers, and activation function

RELATED EXPERIENCE

Lab Tutor for Intermediate Programming (UC Irvine)

March 2020 – June 2020

- Monitored lab activity with TA for up to 50 students at a time
- Performed basic software troubleshooting
- Assisted students to debug, guided students to explore and solve problems from their existing code

Learning Assistant of Discrete Math Course (UC Irvine)

January 2021 – March 2021

- Held weekly office hours answering students' questions
- Cooperated with lead professor to create exam for students

LEADERSHIP

UC Irvine, Taiwan National Organization

Summer 2019 – Present

Chief Marketing Officer

- hosted the events which had more than 100 participants
- headed the marketing strategy, graphic design, social media management, member recruitment