Jessie Yuan

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Education

Carnegie Mellon University *Pittsburgh, PA*

BS in Computer Science *Aug 2022 - Present*

- GPA: 4.0/4.0 - SCS Dean's List, High Honors
- **Relevant Courses:** Graph Theory (21-484)*, Combinatorics (21-301)*, Probability and Computing (15-259)*, Computer Systems (15-213)*, Algebraic Structures (21-373), Parallel and Sequential Data Structures and Algorithms (15-210), AI Representation and Problem Solving (15-281), Theoretical Computer Science (15-251)

Work Experience

CMU Robotic Caregiving and Human Interaction Lab *Pittsburgh, PA*

Undergraduate Researcher *Feb 2023 - Present*

- Led the prompt engineering of ChatGPT to design a novel robotic teleoperation interface that allows users to control an assistive feeding robot with high-level natural-language verbal instructions under Prof. Zackory Erickson.
- Synthesized insights from developing and testing the system with existing literature on the topic to develop a comprehensive framework for integrating LLMs with assistive robotics, detailing best practices for optimal user experience.
- Conducted a human study with 11 older adults to test the efficacy and usability of the system, analyzing the results of the study to iterate and improve on the system via fine-tuning OpenAI's GPT 3.5 Turbo model.
- Selected for CMU's 2023 Summer Undergraduate Research Fellowship (SURF) program for the project proposal.

CMU 15-251 (Theoretical Computer Science) and 15-122 (Imperative Computation) *Pittsburgh, PA*

Teaching Assistant *Jan 2023 - Present*

- Led recitations of 20+ students, reinforcing comprehension of lecture topics and guiding students through challenging practice problems.
- Offered individualized support during office hours and while serving as mentor to 10+ students, strengthening students' conceptual understanding and developing their proof-writing skills.
- Graded student homeworks and midterms, providing constructive feedback to help students understand course concepts and improve their performance.
- Collaborated with instructors to continuously improve homework assignments and maximize student learning.

Scilligence *Cambridge, MA*

Development Intern *June 2021 - Aug 2022*

- Contributed to both the frontend and backend development of a cutting-edge web-based lab notebook, utilizing HTML, CSS, JavaScript, C#, and SQL.
- Worked closely with senior developers, providing support in coding, testing, and debugging applications to ensure high-quality releases.
- Led a project to develop LCD digit recognition software using OpenCV in Python and presented the project to the entire development team, effectively communicating its goals and applications.

Projects

Kaleido: amplifying films by historically underrepresented directors *Pittsburgh, MA*

TartanHacks *Feb 2024*

- Built a web application to provide film recommendations to compete in CMU's largest hackathon as part of a team of 4.
- Leveraged OpenAI's text embeddings to transform summaries extracted from an extensive dataset of films directed by marginalized creators into vector representations.
- Employed Facebook AI Similarity Search (FAISS) to efficiently and accurately search the vector database for films whose summaries were the most similar to films users already liked.

Volunteer Experience

Weston Public Schools Diversity, Equity, and Inclusion Committee *Weston, MA*

Member *Oct 2020 - Jun 2022*

- Built strong relationships with a diverse group of stakeholders, including teachers, administrators, students, and community members, to drive equity and inclusion efforts district-wide.
- Took a leadership role in promoting awareness of issues affecting AAPI students by planning and speaking at the district's AAPI Solidarity Night.

Skills

Programming Python, C, C#, HTML/CSS, JavaScript, Java, SQL, SML, LaTeX.