Jiahui (Sunny) Tang

(617)-888-9471 | jiahuit@andrew.cmu.edu

EDUCATION

Carnegie Mellon University – Pittsburgh, PA May 2025

- B.S. in Information Systems, additional major in Computer Science
- GPA 3.79/4.00 | Dean's List, High Honors (Fall 2021-Present)
- Relevant Coursework: Distributed Systems, Introduction to Computer Systems, Parallel and Sequential Data Structures and Algorithms, Database Design and Development, Artificial Intelligence: Representation and Problem Solving, Designing Human-Centered Software

TECHNICAL SKILLS

- **Programming languages:** Python, C, Golang, SML, R, Ruby on Rails, SQL, CSS/HTML
- **Tools:** MongoDB, PostgreSQL, Redis, Docker, Git, CI/CD pipeline, Linux/Unix, Bash, GDB, Object-Oriented Programming

EXPERIENCE

Teaching Assistant - *18-213/613 Computer Systems @ CMU* May 2024 - Present

- Lead weekly recitations of 10+ students to reinforce course materials and provide additional support during office hours.
- Evaluate students' work and provide constructive feedback to facilitate students' understanding of course contents.

Web Developer - *K-12 Outreach @ CMU* May 2024 – July 2024

- Developed a web tool with HTML/CSS to establish and enhance community engagement for CMU K-12 outreach programs.
- Evaluated solution through iterative design process and worked collaboratively in a community-based partnership.

Technical Consultant - *Re:Bloom, Pittsburgh* Jan 2023 - Aug 2023

- Designed and deployed performant web solutions for small businesses, improving site reliability and reducing load times. Gained at least 17% more visits on site after the first month of launch.
- Provided training on system maintenance, emphasizing efficiency and scalability.

PROJECT EXPERIENCE

Distributed Bitcoin Miner Sep 2024 – Oct 2024

- Designed and developed Live Sequence Protocol (LSP) API, combining the strengths of both TCP and UDP to support reliable, in-order, and connection-oriented communication between clients and a server. Implemented key features such as sliding windows, checksum, heartbeat messages, and epochs to ensure data integrity, efficient transmission, and fault-tolerance.
- Developed a distributed system in Go using LSP API to accelerate Bitcoin mining. Implemented fault-tolerant recovery mechanisms to manage miner failures and designed efficient load balancing strategies to optimize resource usage, maintain fairness, and minimize response times.

Personalized Question Generation for Reading Comprehension – *CMU LearnLab* May 2024 – Sep 2024

- Built and evaluated the performance of multiple large language models using TensorFlow and PyTorch in answering a diverse set of reading comprehension questions. Generating similar questions with models using few-shot learning techniques.
- Integrated a knowledge graph-based approach with GraphRAG to improve personalized question generation by extracting and connecting information nodes through shared attributes. Demonstrated enhanced performance in producing higher-quality, relevant questions aligned with the SARA framework.

Super Mario Bros Project Mar 2022 – Apr 2022

- Developed a simulation of the Super Mario Bros game in Python utilizing object-oriented programming. Designed and implemented game mechanics, including character movement, collision detection, and level progression.
- Integrated OpenCV to capture and process real-time user gestures, creating an innovative control system where players manipulate character movements with hand gestures. Optimized performance to maintain low latency for gesture recognition.

ENGAGEMENT

Women in Information Systems Apr 2024 - Present

- Mentor female students pursuing a major in Information Systems, fostering their professional development.

Carnegie Mellon Varsity Women's Track and Field – Team Captain Aug 2021 - Present

- Honors: UAA All-Academic, Mid-Atlantic All-Regional 4x400m