Sarang Mistry

mistrysarang@gmail.com | Houston, TX | www.linkedin.com/in/sarang-mistry

EDUCATION

The University of Houston | Houston, TX

- B.S. in Computer Science | GPA: 4.0/4.0 | Expected Graduation: December 2024
- *Courses:* Data Structure Algorithms, Data Science 1, Introduction to AI, Operating System, and Software Design.

TECHNICAL SKILLS

- *Programming Languages:* C++, Python, JavaScript, HTML, CSS, Git, and TypeScript
- *Framework:* React JS, Next JS, NumPy, Pandas and Matplotlib
- *Certification:* AWS Cloud Technical Essentials, Python Crash Course, and Python interact with OS

ACADEMIC PROJECTS

Fuel Quote Application January 2024 – May 2024

- Designed and developed a web application to predict fuel rates based on various criteria.
- Implemented frontend with Next.js, TypeScript, and Tailwind CSS for efficient and responsive design
- Implemented user authentication, allowing login and signup functionality using NextAuth.js. Developed a dashboard displaying user profile information, Fuel Form, and Quotation History.
- Developed and maintained robust backend APIs using Node.js and Express.js, integrating session management with express-session and Prisma ORM for secure and efficient user authentication, profile management, and database interactions.
- Utilized Prisma with Vercel Postgres, eliminating manual SQL queries by defining schema using Prisma schema files.

Multithreaded and Multiprocess Incremental Entropy Algorithm August 2023 – November 2023

- Developed a multithreaded version of the incremental entropy algorithm proposed by Dr. Rincon, incorporating POSIX threads to calculate and store CPU scheduling data.
- Extended the project to a distributed model using UNIX sockets, creating a server program efficiently handling multiple client requests through child processes with a fireman function to manage zombie processes.
- Implemented a client program using POSIX Threads and stream sockets, effectively managing scheduling information for multiple CPUs.
- Enhanced efficiency by using a single memory location for parent-child thread communication, avoiding global variables. Implemented interprocess synchronization using named POSIX semaphores, pthread mutex semaphores, and pthread condition variables.

EXPERIENCE

Tutor | University of Houston | Houston, TX August 2023 – Present

- Instructed undergraduate students in Python and C++ programming, covering fundamental principles, hardware/software components, and computational thinking.
- Led hands-on programming exercises to enhance students' problem-solving skills and proficiency in designing, testing, and debugging code.
- Taught structured programming concepts, algorithm design, and computer organization principles, guiding students in developing Python programs and emphasizing fundamental algorithms and data structures for real-world problem-solving in both Python and C++.

HONORS

- Dean’s List: 8 out of 8 Semester.
- Nuclear Regulatory Commission (NRC) Scholarship- Fall 2020 and Spring 2021.

ACTIVITES

Course Lead | Cougar CS August 2023 – February 2024

- Oversaw tutoring alignment with course materials, supported tutors, facilitated effective communication, and developed resources, including programming assignments.