

Sadra Fadaei

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EDUCATION

Amirkabir University of Technology - Tehran Polytechnic

Bachelor of Science in Computer Science

Tehran, Iran

Sep. 2023 – Present

Shahid Beheshti University of Medical Sciences

Doctor of Medicine (MD)

Tehran, Iran

Sep. 2021 – Present

PROJECTS

CPU Scheduling Simulation | C, GCC

<https://github.com/SadraaF/CPU-Scheduling-Simulation>

- Developed a simulation of FCFS, SJF, and Round Robin CPU scheduling algorithms for an Operating Systems course.
- Designed to demonstrate and compare the performance metrics (e.g., turnaround time) of different scheduling policies.

Multithreaded Sort | C, Pthreads

<https://github.com/SadraaF/multithreaded-sort>

- Implemented a parallel version of the insertion sort algorithm using the POSIX Threads (pthreads) library.
- Demonstrates core principles of concurrency and task distribution to improve sorting efficiency on multi-core systems.

TA-Student Synchronization | C, Semaphores

<https://github.com/SadraaF/ta-student-simulation>

- Created a solution to the classic TA-Student synchronization problem using semaphores.
- Illustrates management of concurrent access to shared resources and prevention of race conditions.

Sudoku Solution Validator | C, Pthreads

<https://github.com/SadraaF/sudoku-validator>

- Built a multithreaded program that efficiently validates the correctness of a completed Sudoku puzzle.
- Utilized 11 concurrent threads to simultaneously check all rows, columns, and 3x3 subgrids for compliance.

TECHNICAL SKILLS

Languages: C, C++, Python, JavaScript, HTML/CSS

Data Science & Machine Learning: PyTorch, TensorFlow, Scikit-learn, Pandas

Web Development: React, Node.js, Express.js

Developer Tools: Git, Docker, Linux, GCC