Mahesh Choudhary

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Education

Indian Institute of Technology Delhi — New Delhi , 110016
Bachelor of Technology in Electrical Engineering ***(8.577/10)*** — 2020-2024

Relevant Coursework: Data structures and Algorithms, Analysis and Design of Algorithms, Computer Architecture, Machine Learning, Probability and Stochastic Processes, Embedded Systems ,Digital Electronics,Signals and Systems, Analog Electronic Circuits.

Scholastic Achievements

JEE advanced: Secured rank 2320 among 1.5 lakh candidates appeared for examination (2020).
Merit scholarship: awarded by IIT Delhi for among top 7 percent of students in academic performance.
Competitive Programming: Recognised as Expert at codeforces (1779, Id- maheshc1), codechef(2048, Id- mahesh1j)

Work Experience

Software developer @ Flipkart — October 2024 - present

– working on developing a wrapper over apache pulsar to create robust and efficient messaging service.

C++ software developer @Cadence design systems — June 2024 - September 2024

– worked on adding runtime read/writeback functionality in Protium(FPGA based prototyping platform) which enables runtime data access and modification, hence enhancing debugging capabilities and quicker issue resolution.

Digital Engineer Intern @Texas Instruments — May 2023 - July 2023

– worked on improving computation time of UCD31xx(Digital Power Supply Controller) filter module by analysing codes and designing model to utilize idle components of other filter modules, thus improving best case computation time.

Projects

Thread safe LRU cache(C++)

– Created **thread safe concurrent HashMap** as array of **bucketLists** each secured with **mutex** for better efficiency.
– Designed efficient **thread safe linkedlist** with per-node mutex and implemented fixed locking order to avoid **deadlock**.
– Using Concurrent HashMap and linkedList, implemented and tested highly efficient concurrent LRU cache system.

Cryptocurrency DSCoin(Java)

– Created functional cryptocurrency model, through utilisation and incorporation of various data structures.
– Implemented **Authenticated lists** and **Merkle trees** to ensure secure storage and transfer of data in blockchain.
– Devised a method to identify **fraudulent transactions** and reward miners for aid in decentralised funds exchange.

Academic Blockchain Document(Java)

– Implemented BlockChain to store result of students' exams and to provide digital certificate as proof of their result.

Integration of DER and Storage devices in grid(Python)

– created charge-discharge model based on storage device integration to smoothen power curve using non-linear programming, and developed graph based model to efficiently manage and add generators, loads and storage devices.

Skills

Languages: C++, Java, MySQL, Python, Java, C.
Technologies/Frameworks: Node.js, Express.js, REST API, Git, Docker, Kubernetes.
Softwares and Libraries: Linux, Postman, Numpy, Matplotlib, VS Code, Matlab.

Positions of Responsibility

Mentor, Board for Student Welfare(2022-2023): Mentored five freshmen for stress-free transition in college.
Activity Head, Tryst'22 (Feb 2022 - April 2022): Introduced new events, handled event planning and scheduling, promoted events of the festival using social media platforms.