Sumeet khatri

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Profile

Highly motivated and results-driven aspiring Software Engineer with a strong foundation in Data Structures and Algorithms (DSA) using C++, reinforced by hands-on experience in building efficient and scalable systems. Demonstrated ability through projects such as a high-performance Job Scheduler, Key-Value Store, and Auto-Complete Search Engine, showcasing strong problem-solving and system design skills. Currently expanding expertise in Python for Data Science, Machine Learning, Deep Learning, and Natural Language Processing (NLP) to develop intelligent, real-world solutions. Seeking an opportunity to apply low-level programming efficiency with high-level AI insights to contribute to innovative product development at scale. Committed to writing clean, optimized code and excelling in fast-paced engineering environments.

Technical Projects

1. JOB SCHEDULER SYSTEM [LINK]

- ENGINEERED A MULTI-THREADED JOB SCHEDULER IN JAVA TO EFFICIENTLY MANAGE AND EXECUTE SCHEDULED TASKS.
- IMPLEMENTED TASK PRIORITIZATION, ROBUST CONCURRENCY CONTROL, AND COMPREHENSIVE ERROR HANDLING, ENSURING RELIABLE AND HIGH-PERFORMANCE TASK EXECUTION.
- UTILIZED THREADPOOLEXECUTOR AND QUEUE-BASED ARCHITECTURE TO OPTIMIZE RESOURCE MANAGEMENT AND THROUGHPUT.

2. IN-MEMORY KEY-VALUE STORE [LINK]

- DEVELOPED A HIGH-PERFORMANCE IN-MEMORY KEY-VALUE STORE IN JAVA, SIMULATING A SIMPLIFIED NOSQL DATABASE FOR RAPID DATA ACCESS.
- DESIGNED AND IMPLEMENTED EFFICIENT DATA STRUCTURES, INCLUDING HASHMAPS WITH CUSTOM COLLISION RESOLUTION, TO ACHIEVE SUB-MILLISECOND READ/WRITE OPERATIONS.
- PRIORITIZED MEMORY OPTIMIZATION AND DATA CONSISTENCY TO ENSURE RELIABLE STORAGE OF CRITICAL APPLICATION DATA.

3. LRU CACHE IMPLEMENTATION [LINK]

- CREATED A CUSTOM LEAST RECENTLY USED (LRU) CACHE IN JAVA, SIGNIFICANTLY OPTIMIZING DATA ACCESS AND MEMORY UTILIZATION.
- INTEGRATED A HASHMAP WITH A DOUBLY LINKED LIST TO ENABLE O(1) AVERAGE TIME COMPLEXITY FOR BOTH GET AND PUT OPERATIONS.
- DEMONSTRATED EXPERTISE IN BUILDING CRITICAL CACHING STRATEGIES ESSENTIAL FOR HIGH-PERFORMANCE APPLICATIONS.

4. AUTO-COMPLETE SEARCH ENGINE [LINK]

- BUILT AN AUTO-COMPLETE SEARCH ENGINE IN JAVA, PROVIDING REAL-TIME, RELEVANT QUERY SUGGESTIONS AS USERS TYPE.
- IMPLEMENTED A TRIE (PREFIX TREE) DATA STRUCTURE FOR HIGHLY EFFICIENT PREFIX SEARCHING AND FAST RETRIEVAL OF SUGGESTIONS FROM A LARGE VOCABULARY.
- DESIGNED THE SYSTEM TO ENHANCE USER EXPERIENCE THROUGH QUICK AND ACCURATE SUGGESTIONS.

5. SMART PARKING SIMULATOR [LINK]

- DEVELOPED A SMART PARKING SIMULATOR IN JAVA, MODELING DYNAMIC VEHICLE ENTRY, EXIT, AND OPTIMAL PARKING SPACE ALLOCATION.
- APPLIED OBJECT-ORIENTED DESIGN PRINCIPLES AND EVENT-DRIVEN SIMULATION TO EFFICIENTLY MANAGE PARKING SLOTS AND MINIMIZE WAIT TIMES.

Education

- INDUS UNIVERSITY | JUNE 2022 | AHMEDABAD| 2022-2026 [CGPA - 6.8]
- ANGELS ENGLISH MEDIUM SCHOOL| JUNE 2021 | DEESA [12 TH – 71.9%]

Skills & Abilities

- **Programming Languages:** C++, Python.
- **Data Structures & Algorithms**: Arrays, Linked Lists, Trees, Graphs, Hash Maps, Stacks, Queues, Sorting, Searching, Dynamic Programming, Greedy Algorithms, Recursion.
- **Communication skill.**
- **Problem solving.**
- **Data Science & ML Frameworks:** Pandas, NumPy, Scikit-learn, TensorFlow.
- **Aptitude.**
- **Cs fundamentals:** Operating System, Computer Networks, DBMS, SQL**.**
- **Jupiter notebook**.
- **GitHub**.

Activities and courses

- 2nd Rank in Science Olympiad (9th Standard).
- Supreme 2.0 - Code Help (love babbar).
- Python for Data Science and Machine Learning Bootcamp – Udemy.