PATHA SAI SUMITH

Post Graduate Student at IIITH

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PROJECTS

QueryCraft : Building a Mini-SQL Engine   📅 Oct 2023

[C++]

- Designed a mini SQL engine capable of parsing input queries for semantic and syntactic validation.
- Implemented key database operations, including matrix transpose,sort merge, joins, GroupBy.
- Demonstrated the ability to optimize data storage and retrieval for efficient and fast query processing.
- Developed a B+Tree index from scratch on a database using C++.
- Implemented both insertion and deletion functions for indexing.

TorrentNet : Peer-to-Peer Power   📅 Oct 2022

[C++, Multi-Threading, Socket Programming, SHA1]

- Developed a peer-to-peer file sharing system enabling users to upload and download files within their respective groups.
- Implemented socket programming for seamless data transfer and ensured data integrity using SHA-1 hash verification.
- Designed a multi-threaded system, allowing concurrent execution of tasks like uploading metadata to the tracker, downloading data from peers, and uploading data to peers.
- Implemented a piece selection algorithm for efficient file distribution and established persistent metadata storage for the tracker.

The Art of Low level Design   📅 Mar 2023

[Java, Design Patterns]

- Implemented a classic game of Tic-Tac-Toe using low-level design techniques.
- Recreated the beloved game of Snake and Ladders with careful attention to game mechanics and user interaction.
- Designed and simulated a realistic ATM system, incorporating account verification, balance inquiries, and transactions using state and chain of responsibility design pattern.

The Data Whisperer: Training Sets from Trained Model

[Python , Implicit Bias , SVM , MLP]

- Reconstructed training data that is trained using binary MLP using implicit bias.
- Training a neural network using binary cross entropy loss function will lead it's parameters to margin maximisation problem.
- This parameters form a set of equations with respect to training data.
- Dataset is found by solving set of equations with respect to parameters of trained network.

EXPERIENCE

Assistant System Engineer Trainee

Tata Consultancy Services

📅 Sep 2021 – Mar 2022

Responsibilities:

- Validating the data in source and target database for given transformation logic.
- Prepared and ran SQL queries for data validation
- Involved in Test case writing,execution,bug tracking and reporting

EDUCATION

M.Tech in CSIS

IIIT Hyderabad   **CGPA:8**

📅 2022 – 2024

B.Tech in Computer Science

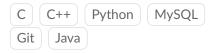**JNTUHCEJ**   **CGPA:7.58**

📅 2017 – 2021

ACHIEVEMENTS

🏆 **GATE CSE 2022**
Secured 98.22 percentile in GATE CSE 2022

- Stood among top30(out of 4000) in HackerEarth Deep Learning challenge

SKILLS

C   C++   Python   MySQL   Git   Java

COURSEWORK

- Data Structures
- Computer Networks
- Database Systems
- Design & Analysis Of Algorithms
- Operating Systems
- Software Engineering
- Machine Learning
- Digital Image Processing

CERTIFICATIONS

- Programming, Data structures and algorithms using Python by NPTEL.
- Problem Solving through programming in C by NPTEL.