Naga Revanth Reddy Sallepalle

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EDUCATION

International Institute of Information Technology, Hyderabad　　　October 2022 - Present
Bachelor of Technology in Computer Science Engineering (Honors) - Expected May 2026　　　CGPA: **8.16/10**

Relevant Coursework: Data Analytics, Software Engineering, Intro to NLP, Statistical Methods in AI, Design and Analysis of Software Systems, DBMS, Operating Systems and Networks, Data Structures and Algorithms

EXPERIENCE

Machine Learning Lab, IIIT-H | Undergraduate Researcher　　　**May 2024 - Present**

- Researching and developing a **novel** framework to automate the Exploratory Data Analysis (**AutoEDA**) process for **multi-tabular** setting under the guidance of **Dr. Naresh Manwani**.
- Constructed a scalable web-based data pipeline to process and **visualize EDA notebooks** from over 50 students, simplifying analysis workflows.
- Developing data integration strategies for merging datasets lacking common identifiers in a research collaboration with **J.P. Morgan Chase & Co**.

Product Labs, IIIT-H | Software Development Intern　　　**Jan 2024 - April 2024**

- Developed **Roti-Kapada-Makan**, a full-stack **Flutter** app, with a **fast-paced** 4-person agile team in a 70-day cycle.
- Engineered the core platform to create a **positive impact** by efficiently connecting **donors and NGOs** with aid-seekers.
- Implemented secure mobile OTP authentication, multi-language support (**10+** languages), and a **crowd-sourced** contribution **verification** system.

PROJECTS

Network File System | C, Concurrency, Networking　　　**Source Code**

- Architected a distributed file system using TCP/POSIX C, integrating a c**entral Naming Server** for metadata management and multi-threaded Storage Servers to handle high-concurrency I/O.
- Constructed **fault tolerance** and data consistency via synchronous replication, automatic server failover, and Reader-Writer locks, utilizing an LRU Cache/Trie system to optimize lookups.

Smart Canteen | React js, GraphQL, FastAPI　　　**Source Code**

- Engineered **Smart Canteen** as a **scalable web platform**, designing a modular order/inventory system with **FastAPI** & **GraphQL** to automate campus-wide food ordering, payments, and stock management.
- Formulated the end-to-end order module, successfully reducing the average user's order-to-collection time from an estimated 10-15 minutes to **under 2 minutes**.

Advanced xv6 Kernel Optimization | C, xv6 Kernel　　　**Source Code**

- Improved the xv6 kernel's memory management by implementing **Copy-on-Write (COW)**, slashing `fork()` time by **45%** and reducing memory usage by **42.5%** across process creation benchmarks.
- Enhanced the kernel's scheduler by integrating alternative policies, including FCFS, MLFQ and PBS, alongside the default Round Robin.

Sales Data Warehouse | OLAP, Data Warehousing　　　**Source Code**

- Established a high-performance Data Warehouse in DuckDB by orchestrating a Python/SQL **ETL** pipeline, transforming 9 raw datasets into an optimized **Star Schema** to streamline analysis for **\$7.6M** in sales.
- Devised complex OLAP queries (*drill down*, *cube*, *rollup*) to diagnose a critical 2018 **revenue drop**, identifying key drivers including a single staff member generating **34%** of **total** revenue.

SKILLS

Languages: C, C++, Python, React, JavaScript, SQL, GraphQL
Frameworks: MongoDB, Flutter, MySQL, FastAPI, Flask, Nextjs, Nodejs
Technologies & Tools: Docker, Nginx, VS Code, Colab, Git, Linux

ACHIEVEMENTS & POSITION OF RESPONSIBILITIES

- Achieved an All India Rank (AIR) of **680** (Top 0.44%) in **JEE Advanced** from a pool of 156,000 students.
- Secured an AIR of **689** (99.92 percentile) in **JEE Main** among over 900,000 candidates.
- Highest rating of **1384**(Pupil) on **Codeforces.**

POSITION OF RESPONSIBILITIES

- **Teaching Assistant** for the courses Probability & Statistics and Linear Algebra.
- Served as an **Apex Mentor**, responsible for inducting new students and providing mentorship.