

Abhinav Jain

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EDUCATION

Vellore Institute of Technology

2022-2026

Bachelor of Technology in Computer Science and Engineering (CGPA: 8.52)

PROJECTS

RDT-Pro | C, Socket Programming, Network Programming (UDP)

Link

- A custom transport layer protocol over UDP using C and standard Socket APIs to simulate TCP-like reliability features.
- Engineered the core segmentation and reassembly logic, manually managing memory buffers to packetize large files into MTU-compliant datagrams.
- Implementing Stop-and-Wait ARQ (Automatic Repeat Request) to handle packet loss, utilizing sequence numbers for error recovery
- Optimized for system performance by handling binary serialization and Network Byte Order (endianness) conversion explicitly.

ResolveAI Customer Support Bot | Golang, PostgreSQL, Google Gemini API

Link

- A stateful AI customer support API providing instant, context-aware answers by persisting conversational memory in a database.
- Designed a PostgreSQL database to store and retrieve chat history, enabling a persistent "memory" for the bot.
- Used SDLC and engineered the core API service using chi and pgx, separating logic into handlers and services to ensure the system was high-performance and testable.

Karma Path- Visualizing Mahabharata Causality | Golang, Sentence-Transformer, Mermaid

Link

- A visualization of Mahabharata's causality by converting natural language queries (e.g., "what led to the dice game?") into fully explorable flowcharts.
- Implemented a semantic search engine with Sentence-Transformers for 1300+ dataset, ensuring 100% trace accuracy via disambiguation UI.
- Engineered efficient BFS graph traversal algorithms in Go (using O(1) maps and adjacency lists) to trace complex cause-and-effect paths from the 1300+ event dataset.

Mahabharata: Analysis of Influence and Fate | PowerBi, Excel, DAX

Link

- An interactive, multi-page Power BI dashboard that analyzes 150+ key Mahabharata characters, turning qualitative narrative data into measurable insights on influence, factional strength, and fate.
- Quantified factional strength via comparative analysis, revealing Pandava influence (8.53) is 41.7% higher than Kaurava (6.02)
- Conducted an analysis on war outcomes, revealing a 75% Kaurava casualty rate which is 34.3% higher than the Pandava 40.7%.

NewsSailor Full Stack News website

Link

- A news aggregation platform which automatically collects and process 2400+ news articles, displays the latest news from various sources across 10+ categories every day.
- Engineered optimized database schema and indexing for 100K+ news articles, accelerating Firestore data access.
- Developed CI/CD via GitHub Actions for Node.js/React, automating deployment and integrating News- data.io for content management

TECHNICAL SKILLS

Languages: C, Golang, Python, SQL, HTML, CSS

Proficient Courseworks: Computer Networks, Operating Systems, Compiler Design

Data and Visualization: MySql, PostgreSQL, Power BI

Soft Skills: Analytical Problem-Solving, Quantitative Reasoning, Critical Thinking

CERTIFICATION AND EXTRA CURRICULAR

The Bits and Bytes of Computer Networking- Google

Link

Technical Member: Google Developer Groups

Nov 2024 – May 2025