A person in glasses looking at a screen

AI-generated content may be incorrect.

**Abhinav Chowdary**

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**EDUCATION**

**B.Tech in Computer Science:** IIIT HYDERABAD : Jul 2019 - May 2023

**SKILLS**

* Python
* RAG
* LangChain
* SQL
* C/C++

**CERTIFICATIONS**

[Microsoft Certified: Fabric Data Engineer Associate](https://learn.microsoft.com/api/credentials/share/en-us/SaiSharan-5888/A3DE2A635DB86413?sharingId=E2230C9F99364E7) (DP-700)

[Microsoft Certified: Fabric Analytics Engineer Associate](https://learn.microsoft.com/api/credentials/share/en-us/SaiSharan-5888/9B2E6A4CDB1C7266?sharingId=E2230C9F99364E7) (DP-600)

[Microsoft certified Azure Data Engineer Associate](https://learn.microsoft.com/api/credentials/share/en-us/SaiSharan-5888/D3D9A8BA83D4BA0D?sharingId=E2230C9F99364E7) (DP-203)

**PROFILE**

With 2+ years of experience in building AI-based applications, I am passionate about leveraging Large Language Models (LLMs) and data engineering to create impactful real-world solutions. My expertise includes working on a wide range of prediction and classification ML models and image processing tasks using deep learning frameworks like YOLO. Through these projects, I have honed skills in developing end-to-end machine learning pipelines, deploying scalable models, and integrating cutting-edge AI into practical systems.

**PROFESSIONAL EXPERIENCE**

## *Karl – The Statistician (Report AI)* (Sep 2024 – Present)

Built a versatile tool to analyze CSV/Excel files, enabling users to generate charts, answer queries, and perform advanced data analysis through natural language interaction.

**Responsibilities**

* Designed and implemented a decision-making flow leveraging LLM function-calling capabilities to identify user intent across three key functionalities: chart generation, query answering, and data analysis.
* **Chart Generation**: Utilized the LIDA architecture to interpret user queries, derive key performance indicators (KPIs), and generate step-by-step code implementations, ensuring precise and hallucination-free chart creation and editing.
* **Query Answering**: Enhanced LLM contextual understanding by preprocessing file metadata (e.g., column names, numerical ranges, unique object values, and counts) to improve accuracy in question answering.
* **Data Analysis**: Developed a three-fold analysis framework using Pandas to retrieve relevant data subsets, compare correlated columns, and derive actionable insights for user-defined scenarios.
* Streamlined processes for data visualization, query generation, and root-cause analysis to cater to diverse business and analytical needs.

**ACHIEVEMENTS**

**PROFESSIONAL EXPERIENCE**

### ***FlipIndex* (May 2024 – Jun 2024)**

Designed and developed a tool to enable natural language (text-to-SQL) querying for QA or exploratory data analysis (EDA) across MySQL, PostgreSQL, and Azure SQL databases.

**Responsibilities:**

* Engineered a dynamic configuration system to securely connect to databases and extract schema details, including all DDL statements across multiple schemas.
* Developed a mechanism to integrate database metadata (DDL statements), question-SQL pairs, and natural language explanations into a vector database for efficient embedding and retrieval.
* Implemented context generation for large language models (LLMs) by retrieving relevant embeddings from vector databases to improve SQL query generation accuracy.
* Facilitated database-agnostic interaction and automated query generation, significantly streamlining the process of database QA and EDA.

### ***Resume Intelligence & Standardization* (Feb 2024 – Apr 2024)**

Developed an application with two main components: Resume Standardization (converts resumes to a consistent format, removes personal data, and enhances content) and Resume Intelligence (manages a resume bank, ranks candidates, and matches resumes to job descriptions using RAG, vector databases, and LLMs). **Responsibilities:**

* Built Resume Standardization module for format conversion, data redaction, and content enhancement.
* Utilized RAG and vector databases for efficient resume retrieval and matching.
* Applied prompt engineering with OpenAI and Anthropic Claude LLMs for flexible model integration.
* Implemented LLM conversation to evaluate and maintain resume quality, format and ensure professionalism.
* Used ReRanker models to refine candidate ranking based on job requirements.

### ***Inventory Optimization (Dec 2023 – Jan 2024)***

*Designed a forecasting model integrated with natural language processing (NLP) capabilities to predict and optimize inventory needs for individual products across stores in real-time.*

***Responsibilities:***

* Developed a forecasting framework to accurately predict inventory requirements by store and product, ensuring optimal stock levels and reducing overstock or shortages.
* Integrated a large language model (LLM) interface to enable natural language queries for inventory forecasts, allowing seamless interaction and accessibility for non-technical users.
* Engineered precise prompt strategies to format user inputs and outputs effectively, ensuring clear, actionable results presented in tabular form.
* Streamlined real-time predictions by combining NLP, prompt engineering, and forecasting methodologies for enhanced decision-making.