



Introducing:
**EXPLORATORY DATA
ANALYSIS USING AI
Technical Documentation**

A platform that transforms Excel files into interactive insights. Upload datasets, generate SQL from natural language, chat with your data using hybrid LLM routing, and run advanced analytics.

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Overview

About the Solution

The AI-powered EDA Platform is an advanced Retrieval-Augmented Generation system designed to eliminate the bottlenecks of manual data analysis in enterprise environments.

Built on Google Gemini 1.5 and Ollama with LangChain hybrid routing, the platform goes beyond traditional analytics tools by understanding natural language queries and automatically generating statistical summaries, detecting correlations, and presenting findings through interactive visualizations.



Business Problem / Challenges

In enterprises across all sectors, a recurring challenge arises when teams attempt to extract meaningful insights from raw data:

True data scientists are expensive and scarce many business questions go unanswered due to lack of Python/R skills

Traditional cycle from raw data to executive-ready insight takes days or weeks

Sensitive operational data cannot be moved to external cloud-based LLMs due to security and compliance requirements

Manual profiling is slow, inconsistently done, and hard to scale across large datasets



Solution Overview

The AI-powered EDA Platform leverages advanced RAG technology and hybrid LLM routing to automatically analyze, query, and surface insights from any uploaded dataset
By processing data intelligently in a single interactive session, the system provides:

Instant statistical summaries, missing values, distributions

English questions converted to precise database queries

Local LLM ensures data never leaves the client's network

From raw data upload to ML model building in one platform

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Key Capabilities

Row counts, column types, missing values, and distribution summaries automated

Ask questions in English, system generates and executes SQLite queries

Data queries route to Ollama locally; general queries go to Gemini

Time-series forecasting (ARIMA), VIF detection, and linear regression

One-click imputation for numeric and categorical columns

Export original or cleaned datasets to Excel with a single click



Value Proposition

01

Accuracy: 30%+
Productivity Gain

02

Loss Prevention:
Under 2 seconds
Response Time

03

Efficiency: 2 LLMs
Hybrid AI Routing

04

Scalability: 100%
Data Residency &
Security

05

Transparency: Full
Lifecycle Raw data
to production-
ready insights

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Primary Tools & Technologies

01

AI Models

Google Gemini 1.5 and Ollama (phi3:mini, llama3) with LangChain hybrid routing

02

Backend APIs

Flask 3.0 with Pandas, NumPy, Scikit-learn, and Statsmodels for data processing.

03

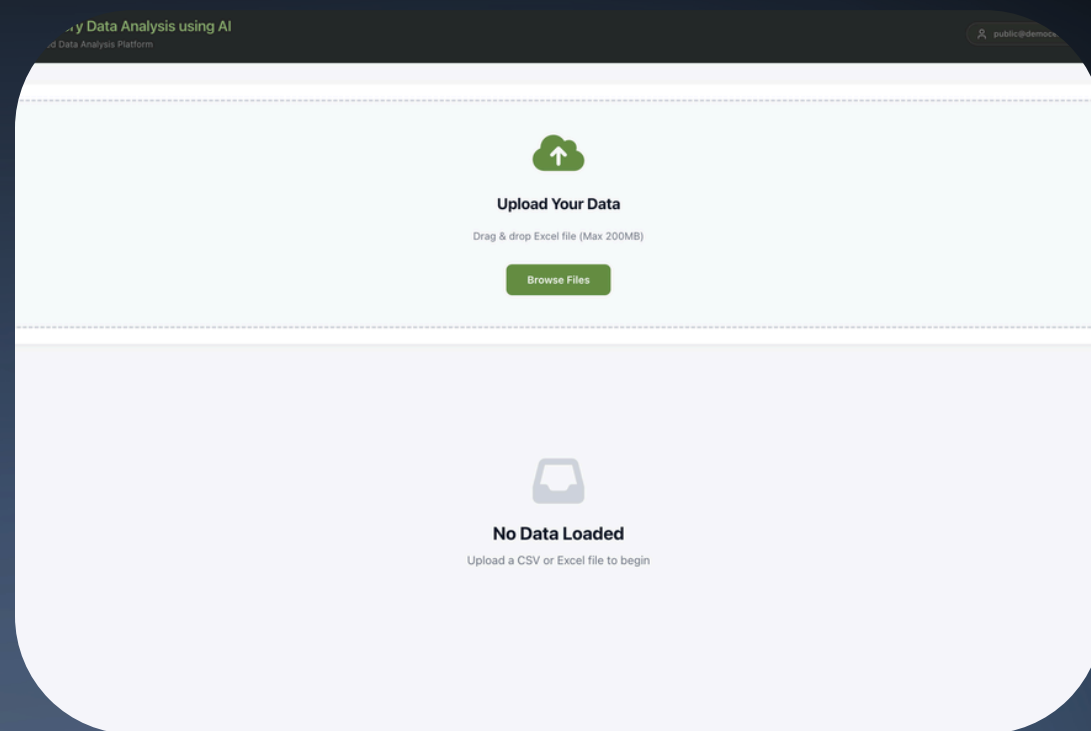
Database

SQLite3 with sqlparse for natural language SQL execution and data storage.

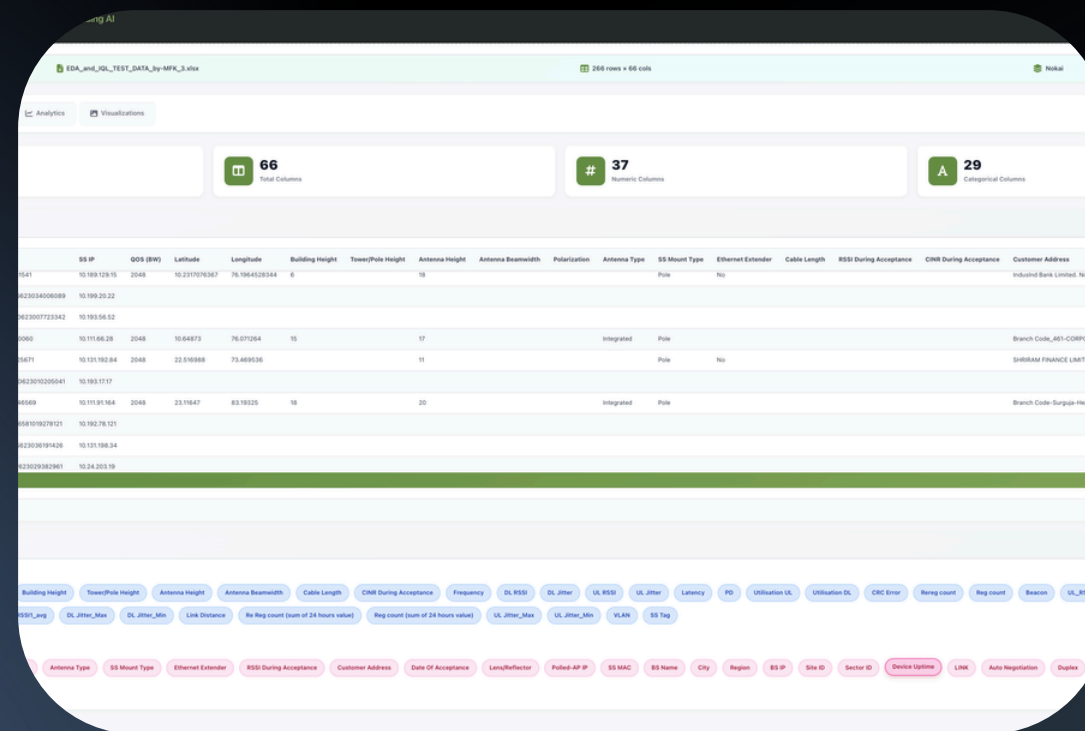


Solution Glimpses

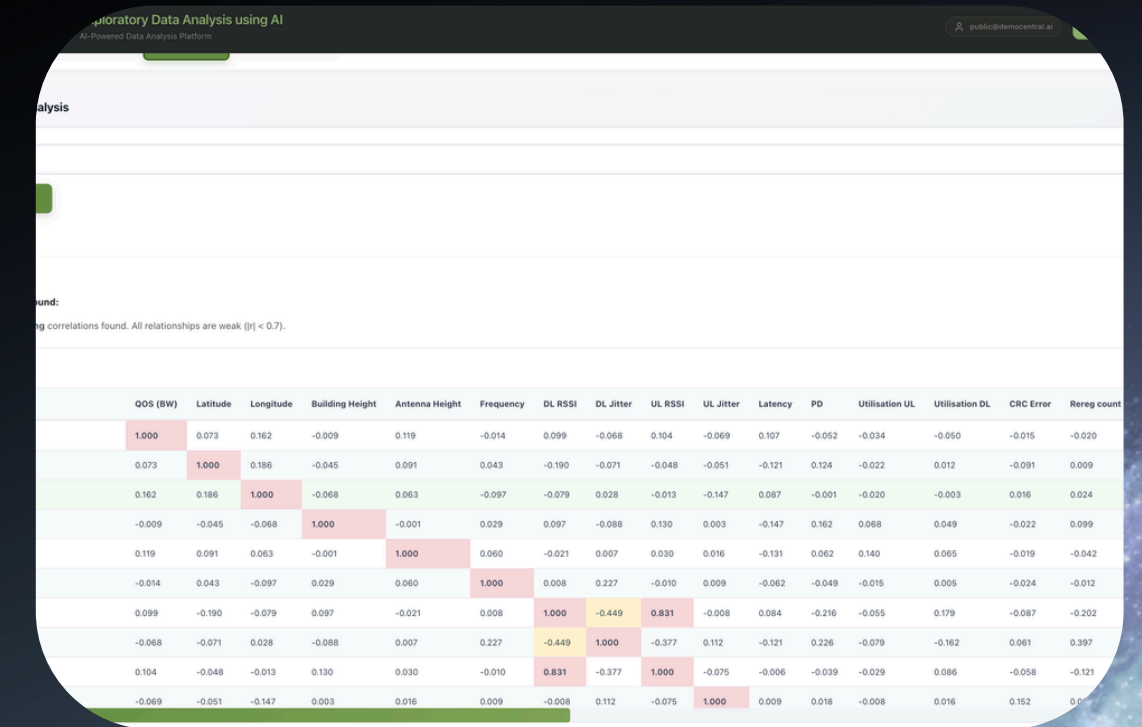
Upload



Results



Analytics



Watch the full video on [Vimeo.com](https://vimeo.com) or scan here to watch:



Request a Demo

If you find this solution relevant to your use case, please feel free to try this prototype or request a custom demo.

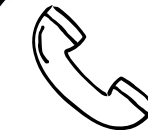


Interact

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Custom Demo

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