

# **Excel Insights Chatbot**

**Submitted By: Saniga Babu**

---

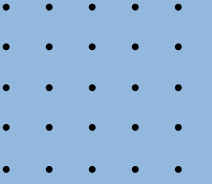
# Problem Statement

- Business users rely heavily on Excel for operations (sales, KPIs, inventory).
- Need quick, ad-hoc insights without technical dependency.

## Objective

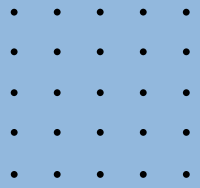
- Build a chat assistant that understands Excel and answers natural language questions using LLMs.

# Solution Overview



- Accepts any structured Excel file.
- Users ask questions in plain English.
- Returns relevant insights via text, tables, or charts.
- Powered by Groq API + LLaMA 3 (open source LLM).
- Built using Python and Streamlit.

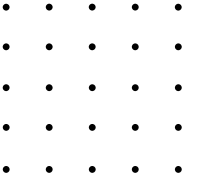




# Architecture



Upload	Normalization	Prompt	LLM returns	Output
•1. User uploads Excel via Streamlit UI.	•2. Data is cleaned (column normalization).	•3. Prompt is created with sample data + schema.	•LLM (Groq API) returns JSON with logic & chart details.	•5. Code is executed securely, results are displayed.

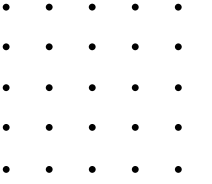


# Key Features

- Schema-Agnostic: No hardcoded column names.
- Column normalization (spaces, casing, special characters).
- Supports bar, pie, line, and histogram charts.
- Handles up to 500 rows efficiently.
- Uses LLaMA 3 for intelligent reasoning.
- Error handling and fallback logic.

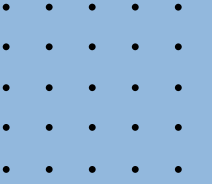


# Tech Stack



- Frontend: Streamlit
- Backend: Python
- Data Handling: Pandas
- LLM: Groq API with LLaMA 3
- Visualization: Matplotlib, Seaborn
- Secrets: .env, dotenv
- Hosting: Streamlit Cloud

# Snapshots



Deploy ⋮

## Excel Chat Assistant

Upload your Excel (.xlsx) file



Drag and drop file here

Limit 200MB per file • XLSX

Browse files

Upload an Excel file to start chatting with your data.

# Snapshots



Deploy

2	Sam	None	48000	Male	No	HR	6.8
3	Priya Kaur	41	70000	Female	Yes	Sales	9
4	Ahmed Ali	23	39000	Male	No	IT	7.1

**\*\* Normalized Column Names:\*\***

employee\_name, age, income\_(\$), gender, active, department, performance\_score



What is the average income?



**Answer:** 54800.0

Ask a question about your data...





**Thank You**

**-NeoStats Assignment Submission**

