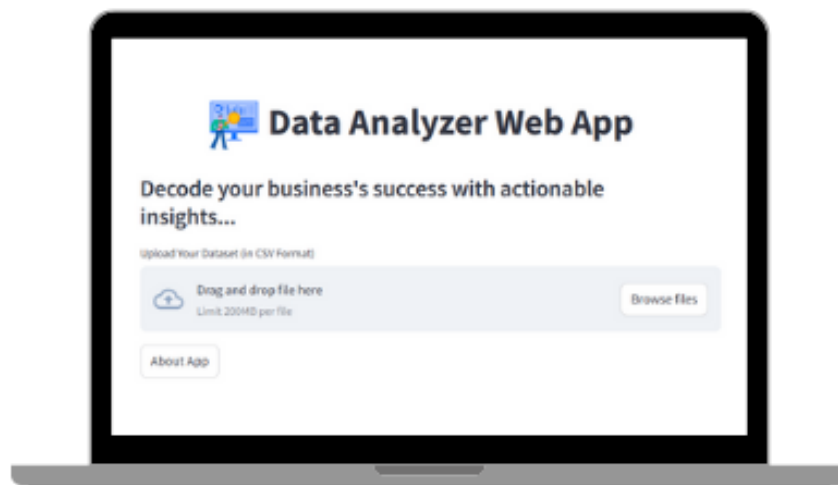# Data Analyzer WebApp – Interactive Data Analysis Made Simple

Data Analyzer WebApp is a browser-based data analysis tool developed using Streamlit. It empowers users to upload and analyze CSV datasets without requiring programming expertise. The application provides essential data exploration features, making it ideal for business users, analysts, and data enthusiasts.

1 Problem Statement

Data analysis can often be complex and time-consuming, especially for non-programmers or those unfamiliar with data analysis tools. Existing solutions either require extensive coding knowledge or are limited in functionality. There is a need for a user-friendly, interactive tool that simplifies the data exploration and analysis process, allowing users to quickly gain insights from CSV datasets.

2 Proposed Solution

The proposed solution is the Data Analyzer WebApp – a streamlined, intuitive tool that enables users to upload datasets, preview data, identify and handle null values and duplicates, and generate basic statistical summaries. The application leverages Streamlit for a responsive user interface and Pandas for data processing, offering a complete data analysis workflow without requiring technical expertise.

Upload Your Dataset (in CSV Format)

Drag and drop file here
Limit 200MB per file

Browse files

Ecommerce-Purchases.csv 2.6MB ✕

☐ Preview Dataset

☐ Datatype of Each Column

☐ Shape of the Dataset

☐ Null Values in the Dataset

☐ Duplicates of the Dataset

☐ Summary of the Dataset

About App

3 Methodology Used

- **Data Ingestion**: Users upload datasets in CSV format through an interactive interface. The app reads the dataset using Pandas and verifies its structure.

- **Data Profiling**: Displays data types for each column. Provides an overview of dataset dimensions (rows and columns).

- **Data Cleaning**: Identifies and handles null values through interpolation. Detects and removes duplicate entries to maintain data integrity.

- **Data Analysis**: Generates descriptive statistics, including mean, median, and standard deviation. Allows users to preview the dataset's head or tail for quick inspection.

- **User Interaction**: Clean, responsive UI built with Streamlit, enabling seamless navigation between features.

4   Key Features

- **Data Upload & Preview**: Upload CSV datasets and view the first or last few records.

- **Data Profiling**: Display data types for each column and dataset dimensions.

- **Data Cleaning**: Identify and handle null values and duplicate records.

- **Statistical Analysis**: Generate summary statistics, including mean, median, and standard deviation.

- **Interactive User Interface**: Clean, visually appealing UI built with Streamlit.

- **Deployment Ready**: Configured for cloud hosting using a Procfile and setup.sh.

5   Results

The Data Analyzer WebApp effectively simplifies the data analysis process by providing an intuitive interface for data profiling, cleaning, and statistical analysis. It eliminates the need for coding knowledge, enabling users to gain insights quickly and accurately. By automating data handling and providing visual feedback, the application significantly reduces the time and effort required for data analysis.