

Create a Django-based web application that allows users to upload CSV files, performs data analysis using pandas and numpy, and displays the results and visualizations on the web interface.

Requirements:

1. Django Setup:

Create a Django project and a Django app within the project.
Configure the project with a with which you are comfortable with.

2. File Upload Feature:

Implement a form that allows users to upload CSV files.
Store the uploaded files temporarily for processing.

3. Data Processing:

Use pandas to read the uploaded CSV file.
Perform basic data analysis tasks such as:
Displaying the first few rows of the data.
Calculating summary statistics (mean, median, standard deviation) for numerical columns.
Identifying and handling missing values.

4. Data Visualization:

Generate basic plots using matplotlib or seaborn (integrated with pandas) such as:
Histograms for numerical columns.
Display the plots on the web page.

5. User Interface:

Use Django templates to create a simple and user-friendly interface.
Display the data analysis results and visualizations in a clear and organized manner.

Deliverables:

1. A GitHub repository containing the Django project code.
2. A README file with setup instructions and a brief explanation of the project.
3. A sample CSV file for testing purposes.