Project Contribution Documentation

Your Contribution

You contributed the visualizer.py module, which adds interactive data visualizations to the project using Streamlit and Plotly Express. Your part enhances the project's UI/UX by converting raw data into meaningful visual insights, making data trends easier to interpret for users.

Code Overview and Explanation

File: visualizer.py

Libraries Used:

- streamlit as st - Used for building the web interface and displaying visual content.
- plotly.express as px - Used for creating rich and interactive plots like line and bar charts.

Function: create_enhanced_visuals(data, title)

Purpose:

Creates and displays dynamic visualizations (line chart, bar chart, and statistical summary) for the given dataset.

Parameters:

- data: A Pandas DataFrame containing the dataset.
- title: A string used as a heading for the visualizations.

Function Logic Breakdown

- Checks if data is None or empty, and exits with a warning if so.
- Displays a subheading using the given title.
- Selects numeric columns; exits if none are found.
- Creates a line chart for the first 3 numeric columns.
- Displays a bar chart for the first numeric column (top 10 rows).
- Outputs a statistical summary using describe().

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Your Role in the Project

You were responsible for:

- Designing and implementing the create_enhanced_visuals function.
- Integrating data visualization using Plotly Express.
- Adding a user-friendly interface using Streamlit for dynamic interaction.
- Providing a statistical overview for numeric data.