



# AI Data Visualization Agent (LangChain + Ollama + Docker Sandbox)

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Choose a CSV file



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Book1.csv 57.0B



☐ Show full dataset

Preview (first 5 rows):

	Year	Sales
0	2021	20
1	2022	30
2	2023	44
3	2024	21
4	2025	54

What would you like to know about your data?

can you plot using plotly the % variation of sales for each year?

Analyze

## AI Response

Sure, to achieve this, we will use pandas library in Python to read and analyze data from CSV file. Then Plotly library is used to create a line chart showing the percentage change in sales over time. Here's how you can do it:

```
import pandas as pd
import plotly.express as px
from PIL import Image
import base64
import os

# Read data from CSV file
df = pd.read_csv('/data/dataset.csv')

# Ensure the 'Year' and 'Sales' columns exist in your dataset
if 'Year' not in df.columns or 'Sales' not in df.columns:
    print("The dataset does not contain 'Year' and/or 'Sales' columns.")
else:
    # Calculate percentage variation of sales for each year
    df['Percentage Change'] = df['Sales'].pct_change() * 100

    # Plot using plotly
    fig = px.line(df, x='Year', y='Percentage Change')
    fig.write_image("/tmp/chart.png")

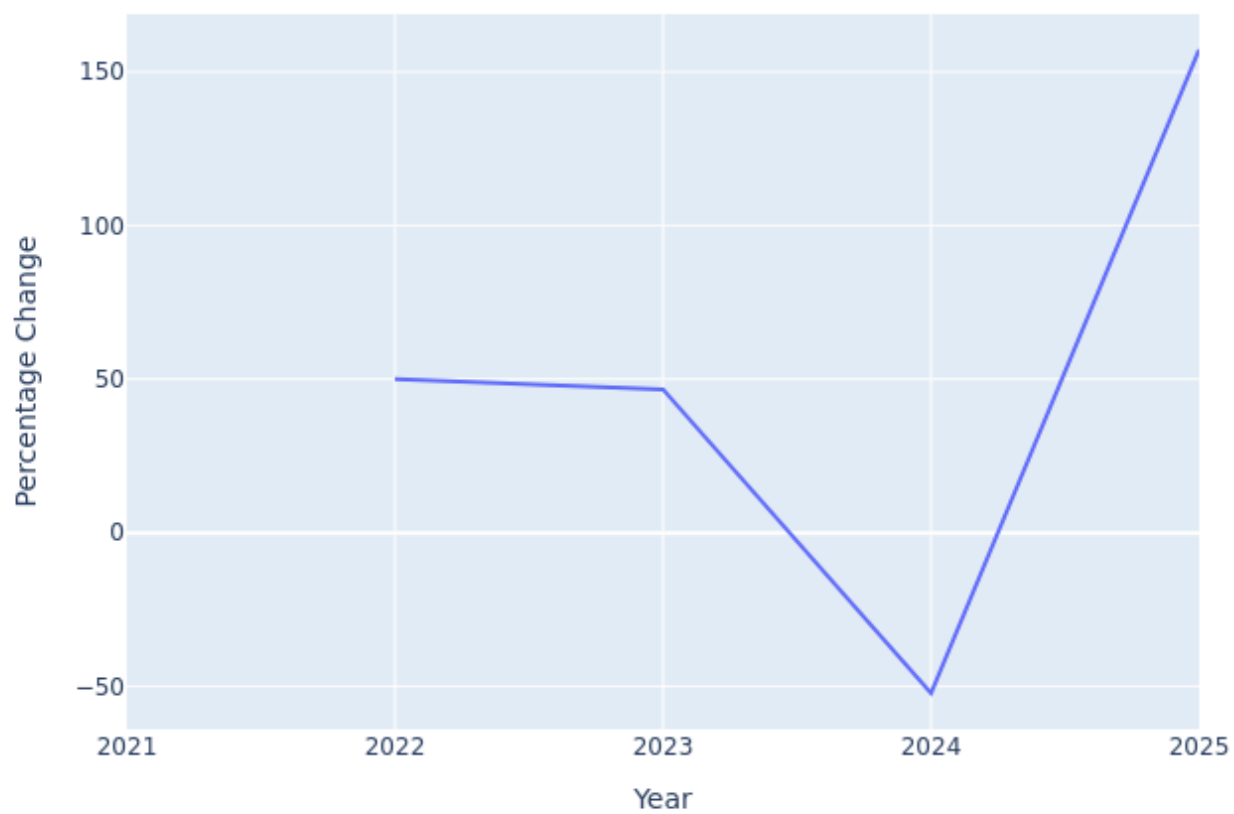
    # Open the saved image and convert it to base64
    with open("/tmp/chart.png", "rb") as image_file:
        encoded_string = base64.b64encode(image_file.read()).decode('utf-8')

    os.remove("/tmp/chart.png") # remove the temporary file

    print(encoded_string) # Prints out the base64 string for the image
```

Please replace '/data/dataset.csv' with your actual CSV file path and ensure that 'Year' and 'Sales' are column names in your dataset. This code assumes that the sales data is already aggregated to yearly figures, as it calculates percentage change from one year to another. If this is not the case, you would need additional preprocessing steps to aggregate the data correctly.

## Code Execution Output



Generated Visualization