Toycraft tales: tableau's vision into toy manufacturer data

Team ID : LTVIP2025TMID49655

Team Size : 4

Team Leader : Chittiprolu Sree Lakshmi

Team member : S Harshitha

Team member : K Nagendra Reddy

Team member : Syed Sirazuddin

Project Description:

The Toy Manufacturers' Data Exploration and Visualization Project aims to leverage the power of Tableau to provide a comprehensive analysis of the toy manufacturing industry. By delving into the vast dataset encompassing various facets of the industry, the project seeks to uncover valuable insights related to market trends, production patterns, and consumer preferences.

By the end of this project:

You'll be able to understand the problem to classify if it is a regression or a classification kind of problem.

You will be able to know how to pre-process/clean the data using different data pre-processing techniques.

You will able to analyze or get insights into data through visualization.

Applying different algorithms according to a dataset and based on visualization.

You will be able to know how to find the accuracy of the model.

You will be able to know how to build a web application using the Flask framework.

Requirements:

Data Collection.

Collect the dataset or Create the dataset Data

Pre-processing.

Import the Libraries.

Importing the dataset.

Checking for Null Values.

Data Visualization.

Taking care of Missing Data.

Feature Scaling.

Splitting Data into Train and Test.

Model Building.

Import the model building Libraries.

Initializing the model.

Training and testing the model.

Evaluation of Model.

Save the Model.

Application Building.

Create an HTML file.

Build a Python Code.

Run the App.

This project contains various configuration files and a dataset related to toy craft.

Files Included:

- **MultipleFiles/config.json**: A JSON file specifying the project's template.

- **MultipleFiles/prompt**: A binary file, likely containing input or instructions for a process.

- **MultipleFiles/launch.json**: A Visual Studio Code launch configuration file for debugging purposes, specifically for launching Chrome against a local server.

- **MultipleFilesToyCraft Tales.csv**: A CSV (Comma Separated Values) file containing Toycraft data.

Data Overview (MultipleFiles/ToyCraft Tales.csv):

The **ToyCraft Tales.csv** file contains time-series data related to traffic volume and various environmental factors. Each row represents a specific hour, and the columns provide the following information:

- o State: This column represents the state in which the toy manufacturers are located. It is presented as categorical data, meaning it represents different categories or groups.
- o Year: This column denotes the year in which the data was recorded. It is presented as numeric data, representing specific numerical values.
- o Number of Manufacturers: This column provides information about the total number of toy

manufacturers present in a particular state and year. It is also represented as numeric data.

- Analyze by state:
    - If you are interested in understanding how many toy manufacturers each state has throughout this 12-year period, focus on analyzing or comparing values within states across different years.
    - Use visualization tools like bar charts or line graphs to observe any trends or patterns that may emerge.
- Identify growth or decline:
    - Look for states where there has been significant growth or decline in the number of toy manufacturers over time.
    - Compare these trends with external factors such as economic conditions, changes in regulations, population shifts, etc., that might influence such changes.
- Compare across years:
    - Explore if there are any notable changes from year to year for individual states by comparing values within one specific state across different years.
    - Plotting these comparisons can help identify significant fluctuations and understand if they are consistent throughout all states.
- Explore correlation with other factors:

o Consider exploring correlations between variables like retail sales figures for toys at national and/or regional levels and see if they align with any variations observed among toy manufacturers over time and across states.

1. Prerequisites:

- **Visual Studio Code (VS Code)**: Recommended for development and debugging, especially with the provided **launch.json** file.

- **Web Browser (Chrome)**: The **launch.json** configuration is set up for Chrome.

2. Running the Project :

The **launch.json** file suggests a web-based application. To run this project, you would typically:

- **Install Dependencies**: If this is a web project, you might need to install Node.js and then run **npm install** or **yarn install** in the project directory.

- **Start the Development Server**: The **launch.json** points to **http://localhost:8080**. You would need to start a development server that serves your application on this port. This is usually done with a command like **npm start** or

yarn dev, depending on the project's setup (indicated by **"template": "bolt-vite-reactts"** in **config.json**).

- **Launch Debugger**: In VS Code, go to the "Run and Debug" view (Ctrl+Shift+D or Cmd+Shift+D) and select "Launch Chrome against localhost" from the dropdown, then click the green play button.

The **ToyCraft Tales.csv** file can be analyzed using various tools and programming languages (e.g., Python with pandas, R, Excel) to gain insights into data patterns,bar graphs and bar graphs.

Project Structure:

```
├── MultipleFiles/
|    ├── config.json
|    ├── prompt
|    ├── launch.json
|    └── ToyCraft Tales.csv
└── README.md
```

ToyCraft Tales

Tableau's Vision into Toy Manufacturer Data

Data Period	Geographic Coverage	Analysis Focus
2005 - 2016	**50+ US States**	**Manufacturing Trends**

Key Insights & Analysis

Leading State
California
1,279 total manufacturers

Industry Decline
31.3%
254 fewer manufacturers since 2005

Market Concentration
Top 5 States
Account for 37.8% of total

Steepest Decline
2008-2010
Economic recession impact visible in data

Data Summary

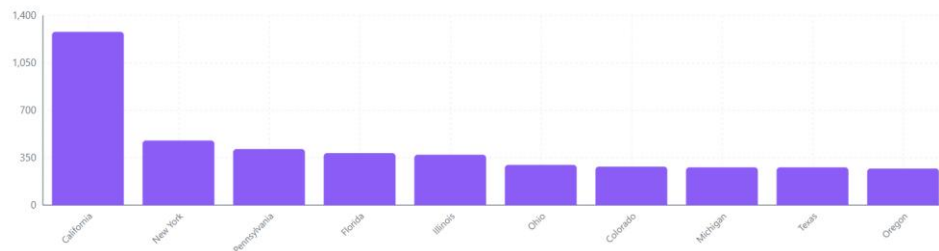**Time Period:** 2005-2016 (12 years)　　**Geographic Scope:** 50+ US States　　**Total Data Points:** 590+ records

National Manufacturing Trends

Top 10 Manufacturing States

Cumulative toy manufacturers by state (2005-2016)

#1	#2	#3	#4	#5
California	New York	Pennsylvania	Florida	Illinois
1,279	477	414	384	372

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| 2011 | 2012 | 2013 | 2014 | 2015 | **2016** |

State Rankings for 2016

Top 15 states by number of toy manufacturers