

Chapter 9

Interactive Visualization With Plotly Express

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ABSTRACT

Data visualisation is the process of visualizing data for the purpose of analyzing and correlating data to confirm complicated ideas and to spot visual patterns after an investigation. Data visualization allows data scientists to quickly identify visual patterns and trends that may not be immediately apparent from raw data. Visualization also enables us to build models that are easier for stakeholders to understand and apply. Data visualization is an essential tool for exploratory data analysis (EDA). Plotly Express is a terse, high-level Python visualization library. It is a wrapper module for Plotly library that provides simple interface for visualizing data in the form of various plots, maps, graph objects, layouts, traces, figures, etc. Plotly Express is a user-friendly, high-level interface to Plotly that generates easily styleable, interactive, beautiful, and informative figures visualizing various types of data. Plotly Express provides interactive visualizations.

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IMPORTANCE OF DATA VISUALIZATION

Data visualization is converting data into visual representations, such as plots, graphs, charts, and maps, that may be used to explain the data and provide new perspectives. Data visualization is visualizing data to analyze and correlate data to confirm complicated ideas and spot visual patterns after an investigation. Data visualization plays a critical role in understanding and interpreting data. It can be used to uncover relationships in large, complex datasets and to make sense of the vast amounts of information available today. Data visualization allows data scientists to quickly identify visual patterns and trends that may not be immediately apparent from raw data. By presenting data visually, data scientists can promptly recognize outliers, patterns, and correlations that might otherwise be difficult to spot. Visualization also enables us to build more accessible models for stakeholders to understand and apply.

The main goal of data visualization is to make it easier for viewers to identify patterns, styles, and vendors in large datasets. By creating visual representations of data points such as charts, graphs, or maps, the most critical aspects of the data set can be highlighted while still conveying its complete story. This makes it easier for business analysts to interpret the underlying trends or correlations within the dataset, which ultimately helps them make better business decisions. Visual communication is a necessary talent for all managers in this era. Data visualization is an essential tool for Exploratory Data Analysis (EDA). It provides a way to gain insight into data by visually representing it and helps reveal patterns, correlations, outliers, and anomalies that may otherwise remain hidden. Data visualization allows business analysts to quickly observe trends in data, identify relationships between variables and understand the underlying structure of the data. This helps us form hypotheses about what might be causing specific patterns or behaviors in our data. Using data visualization techniques, we can more quickly and easily explore large data sets than possible by manually examining each observation. This makes it easier to discover meaningful insights from our data that can inform decisions and help guide further exploration.

PLOTLY EXPRESS FOR DATA VISUALIZATION

Plotly Express is a terse, high-level Python visualization library. It is a wrapper module for the Plotly library that provides a simple interface for visualizing data in various plots, maps, graph objects, layouts, traces, figures, etc. Plotly Express is a user-friendly, high-level interface to Plotly, which generates easily style able, interactive, beautiful, and informative figures visualizing various types of data.

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