

INTRODUCTION TO BIG DATA

ECAP456

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Learning Outcomes



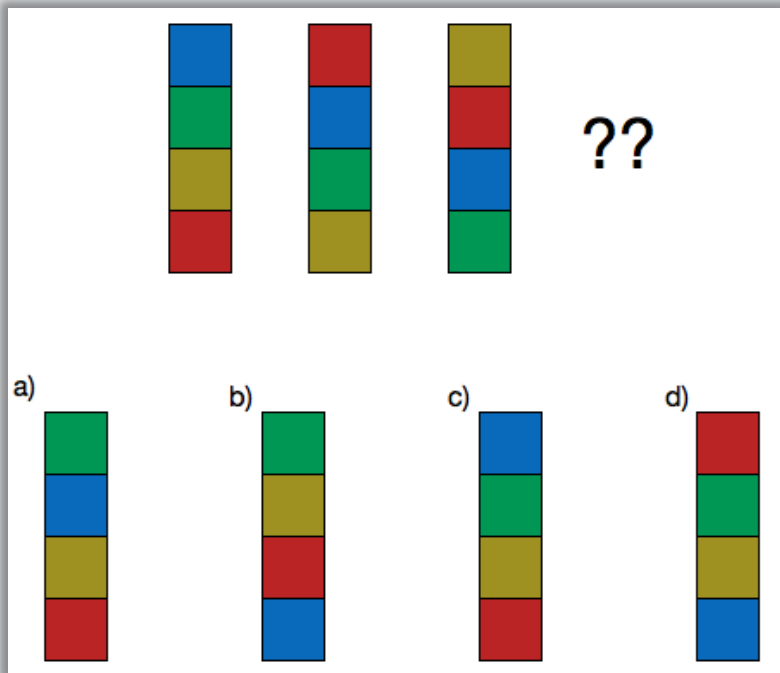
After this lecture, you will be able to

- learn visual data analysis techniques.
- understand benefits of good data visualization
- learn different types of analysis for data visualization.

Introduction

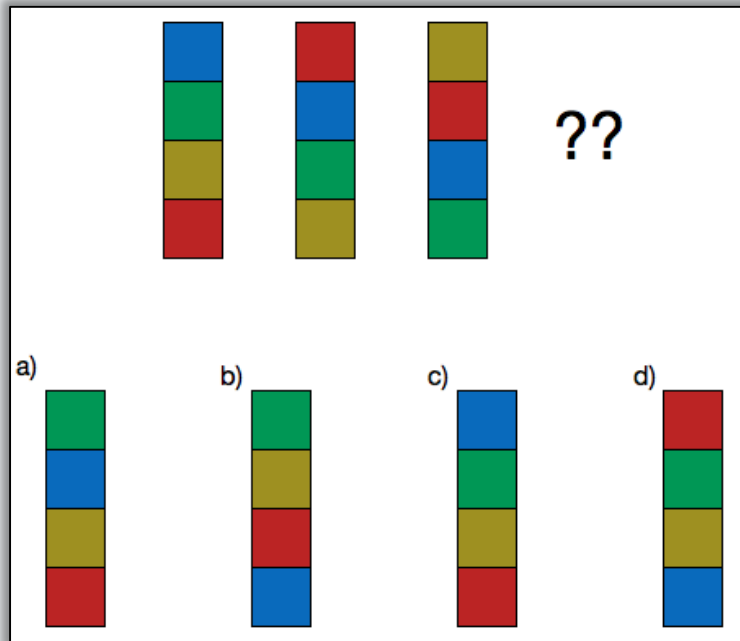


Introduction



Identify Patterns

Introduction

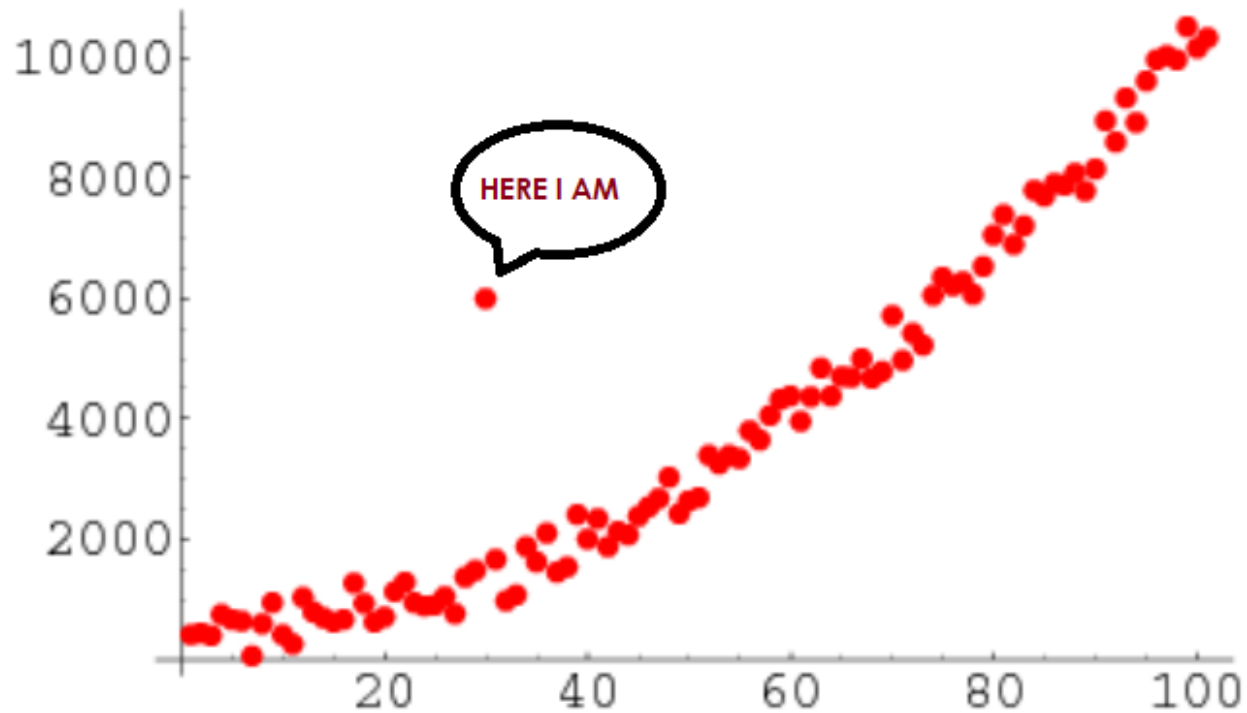


Identify Patterns



Corrupt Data

Introduction



Outlier

Data visualization



GRAPHICAL REPRESENTATION OF
DATA

Data visualization

- Data visualization tools and technologies are crucial to analyze massive amounts of information and make data-driven decisions.



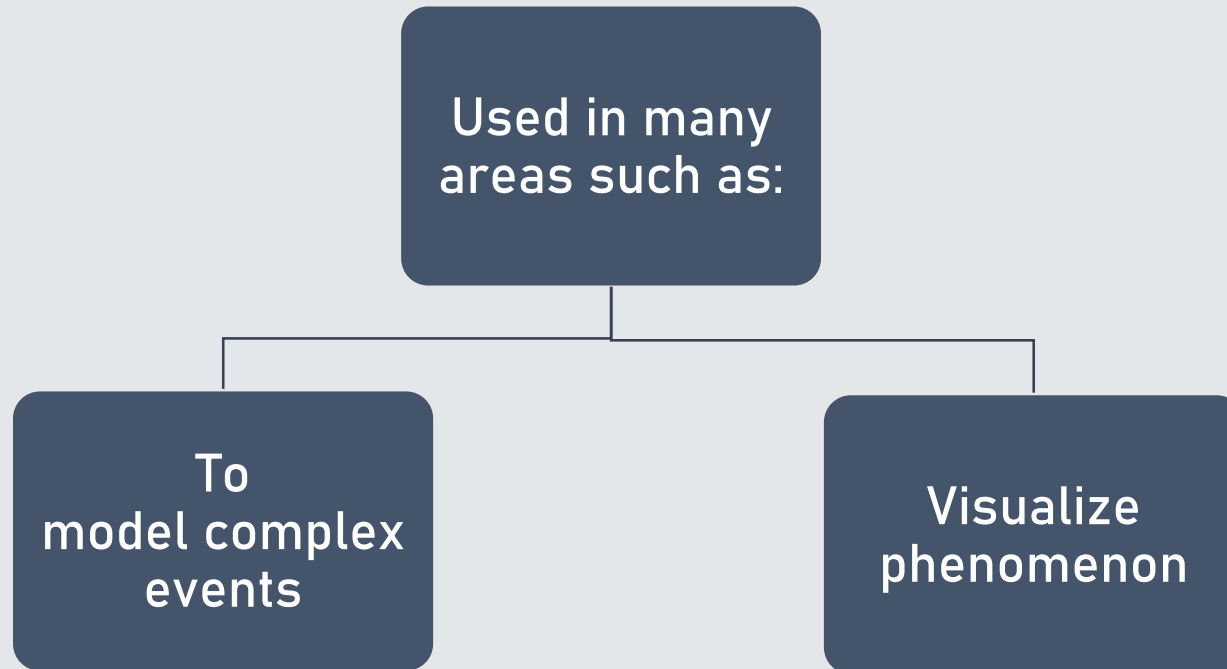
Data visualization

Used in many
areas such as:

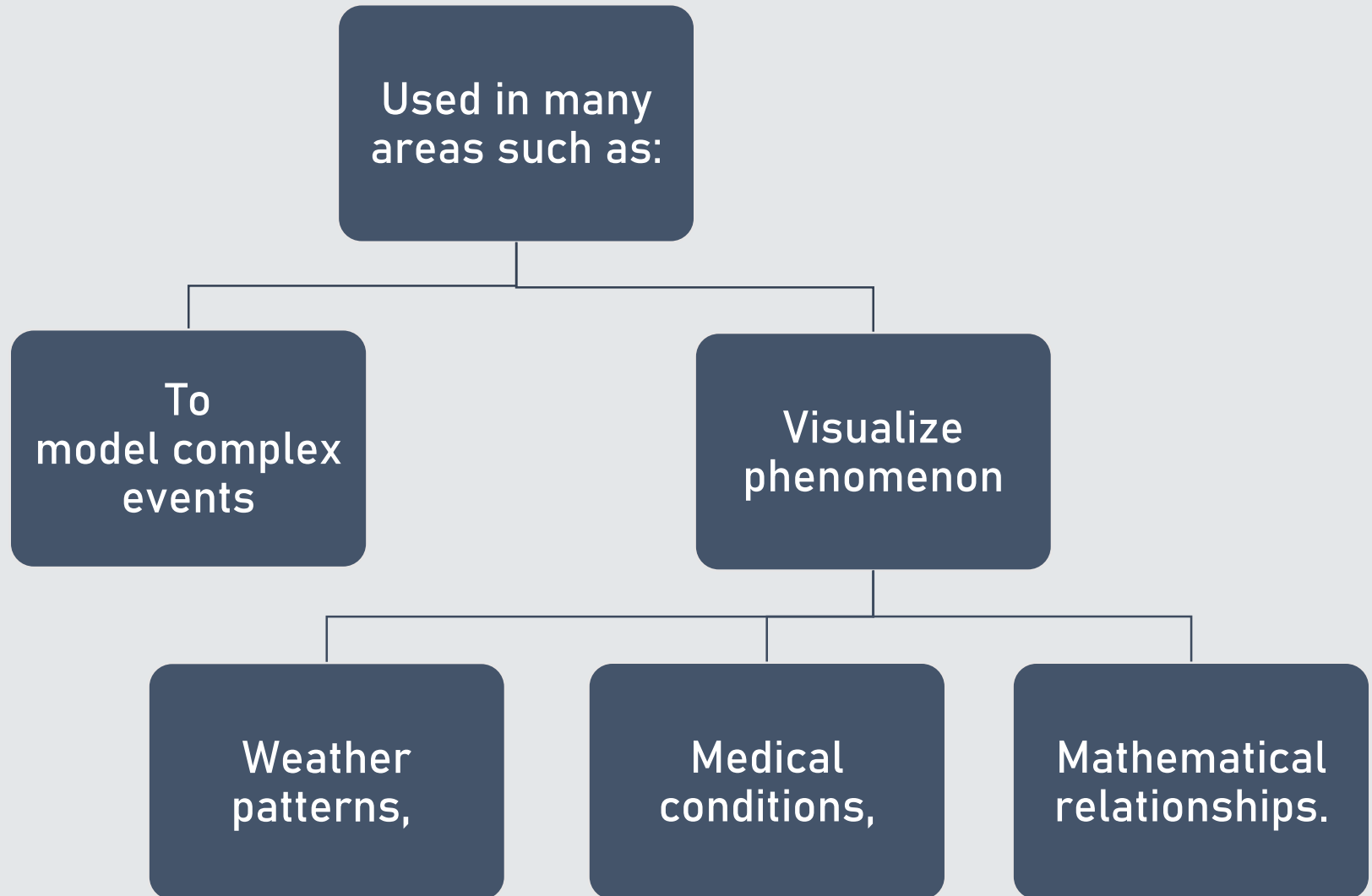
To
model complex
events

A thin dark blue line connects the bottom of the top box to the top of the bottom box. It consists of a horizontal segment followed by a vertical segment.

Data visualization



Data visualization



Benefits of Good Data Visualization



CAPTURE THE COLORS AND PATTERNS

Benefits of Good Data Visualization

Another technique of visual art.

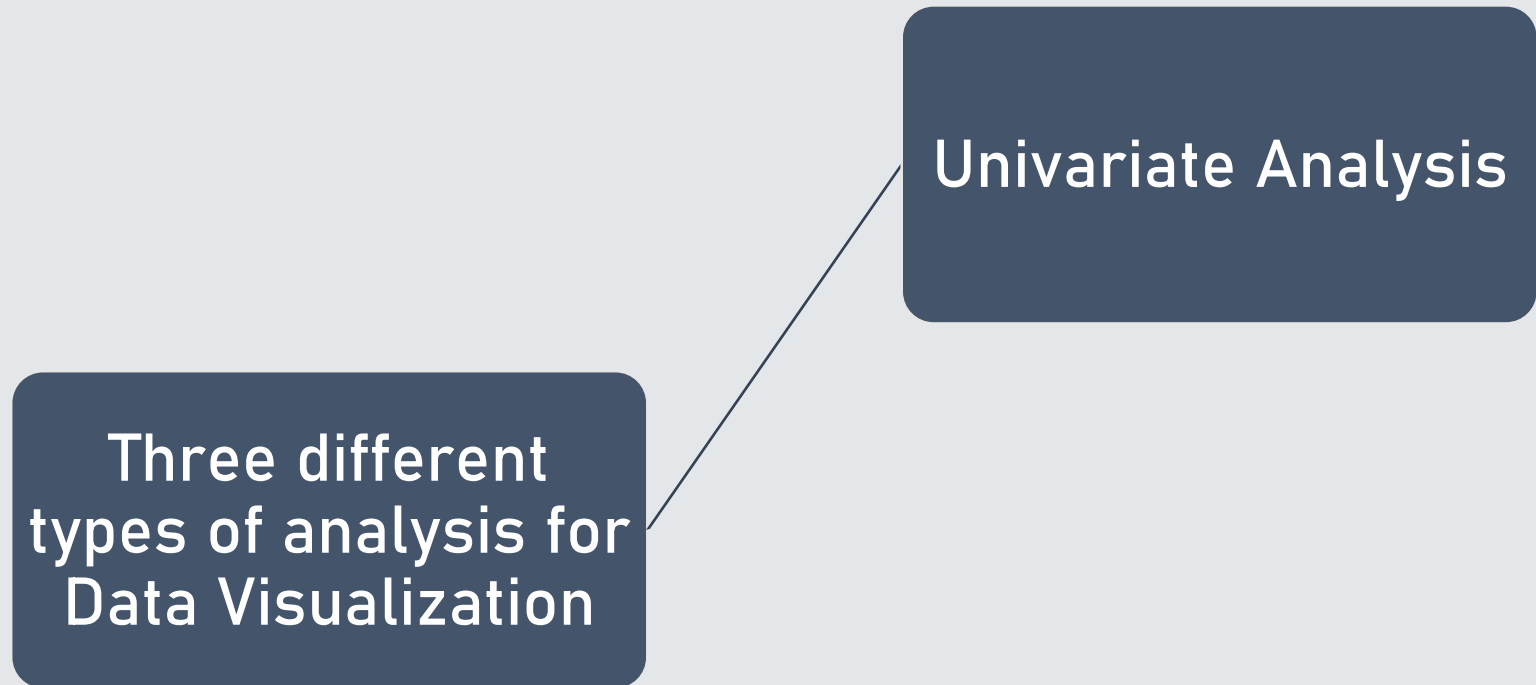
Focus on the message captured with the help of eyes.

Identify the trends and outliers.

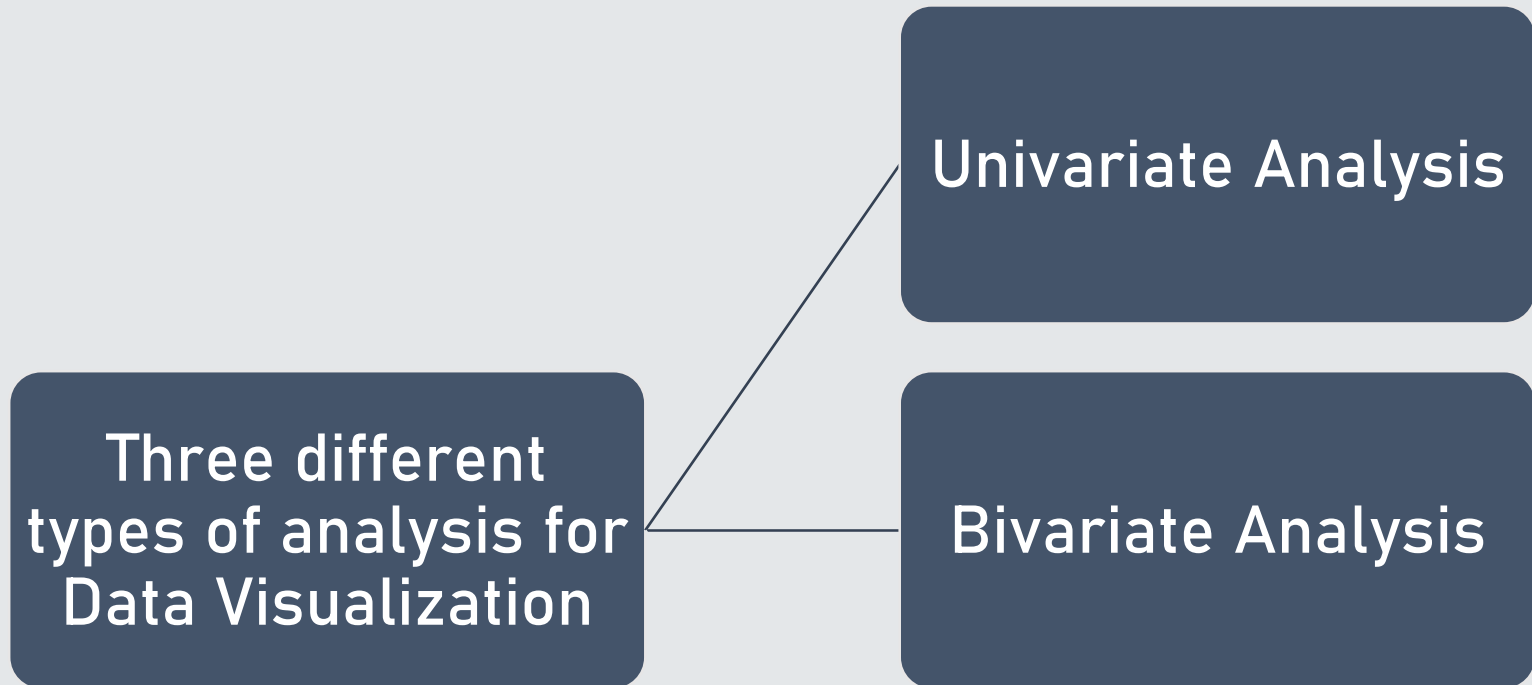
Uses of Data Visualization

- **Presentable** and **interpretable** results.
- Acts as a primary step in the pre-processing portion.
- Supports the **data cleaning process**
- Helps to **construct and select variables**
- Plays a crucial role while combining the categories.

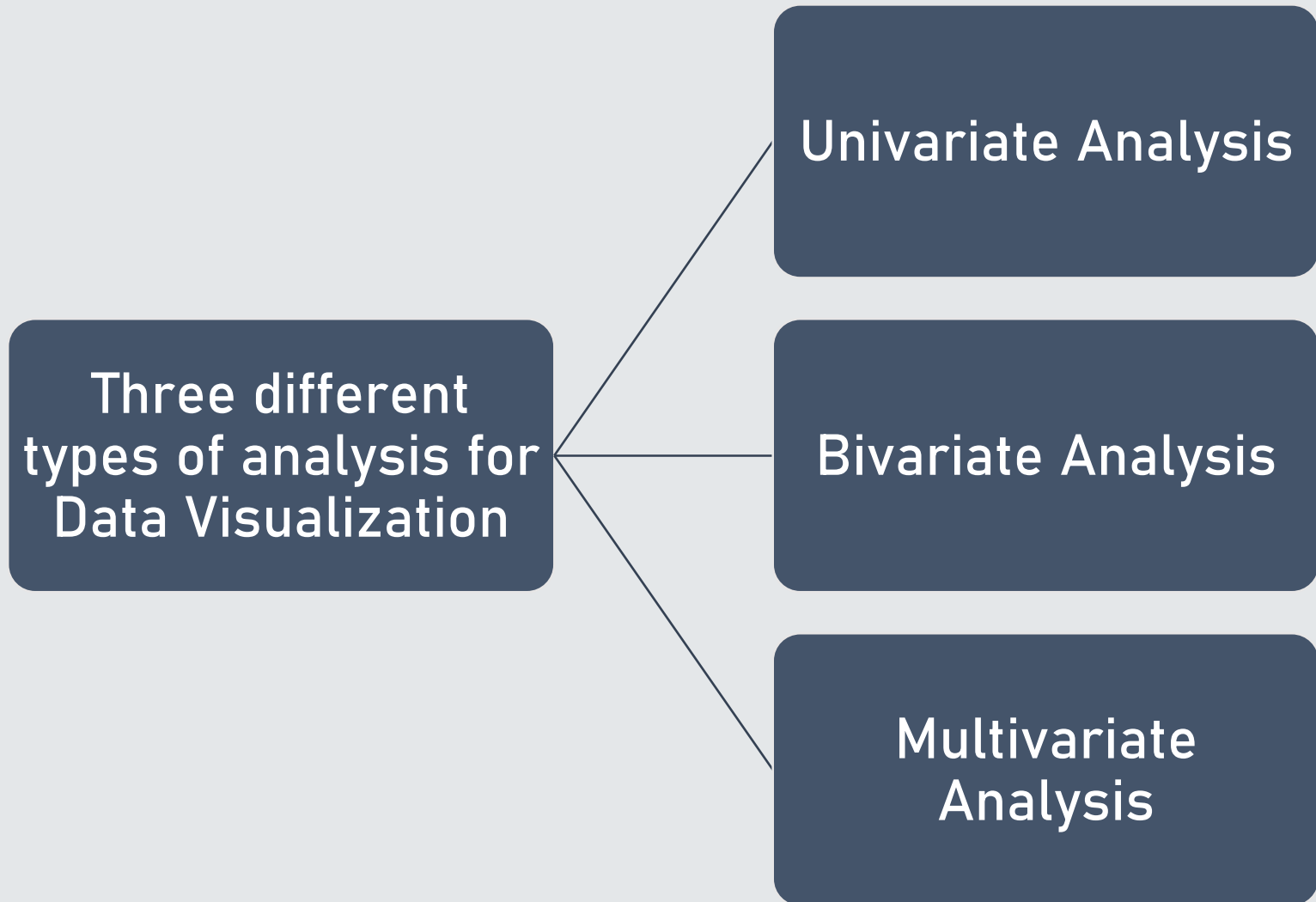
Different Types of Analysis for Data Visualization



Different Types of Analysis for Data Visualization



Different Types of Analysis for Data Visualization



Univariate Analysis Techniques for Data Visualization

Distribution Plot

Box and Whisker Plot

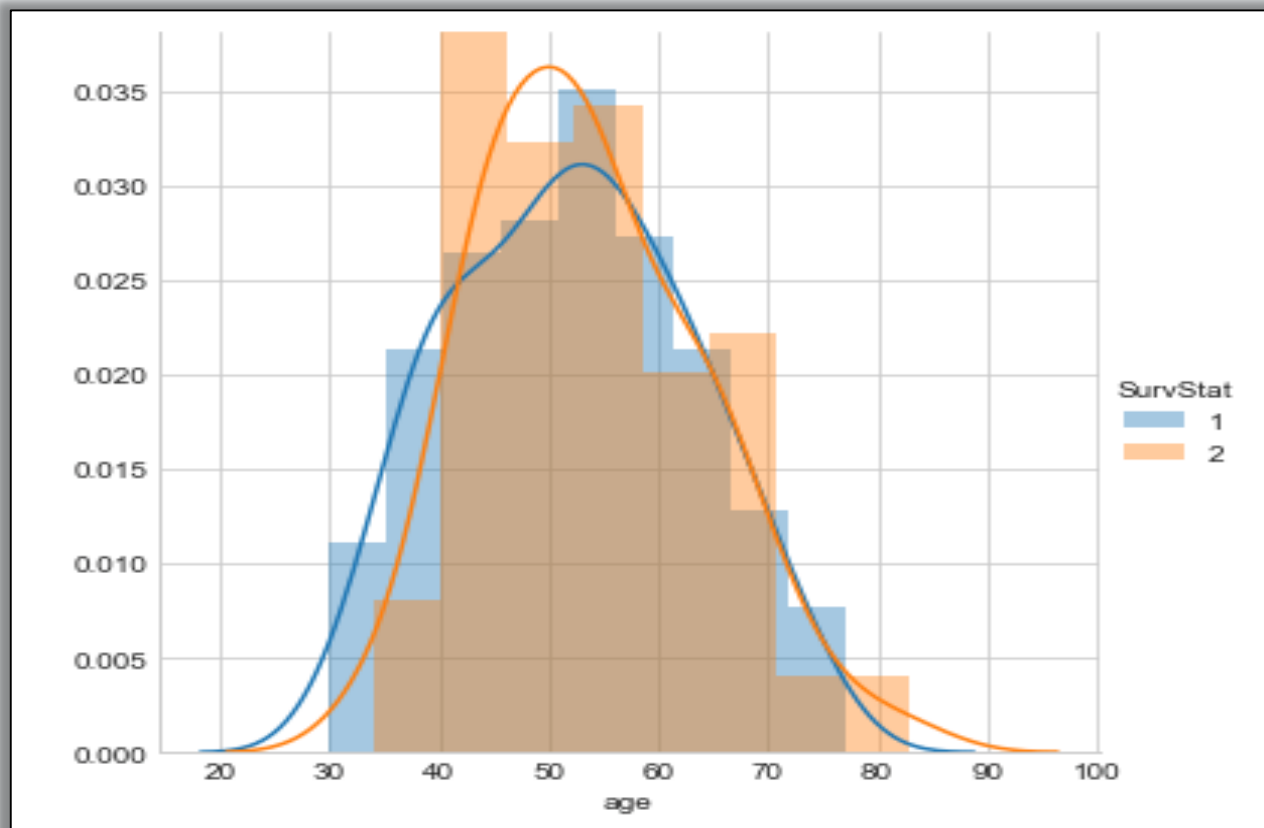
Violin Plot

Univariate Analysis Techniques for Data Visualization

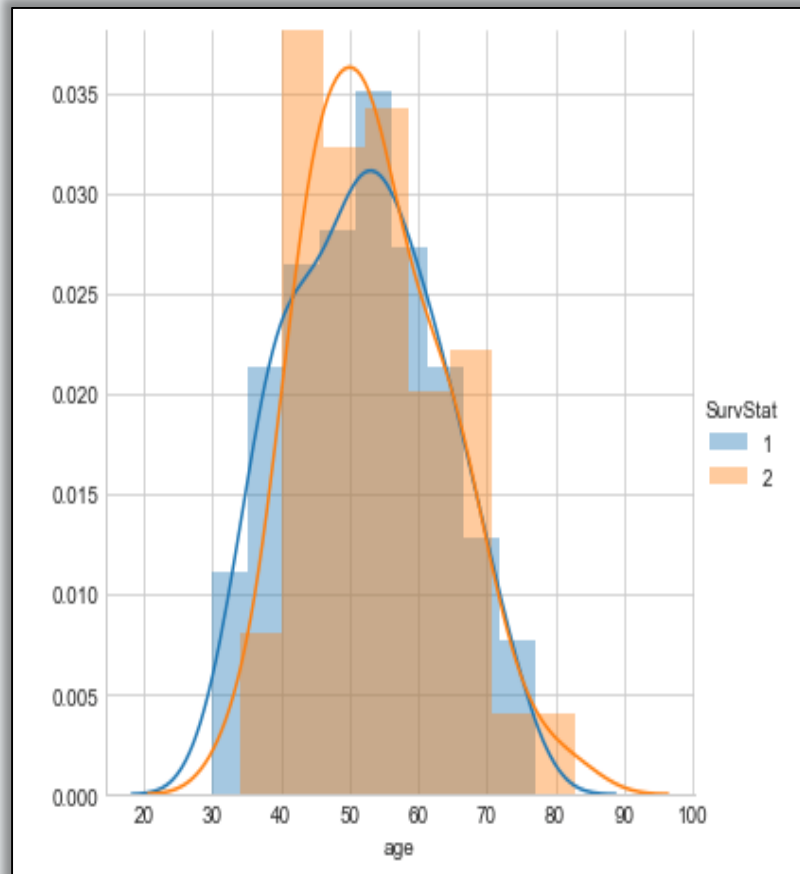
1. Distribution Plot

Univariate Analysis Techniques for Data Visualization

1. Distribution Plot

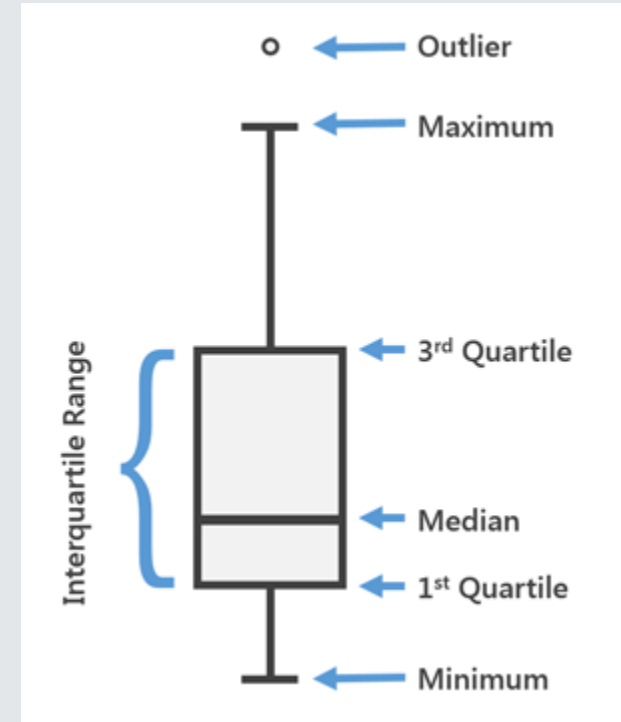


Univariate Analysis Techniques for Data Visualization



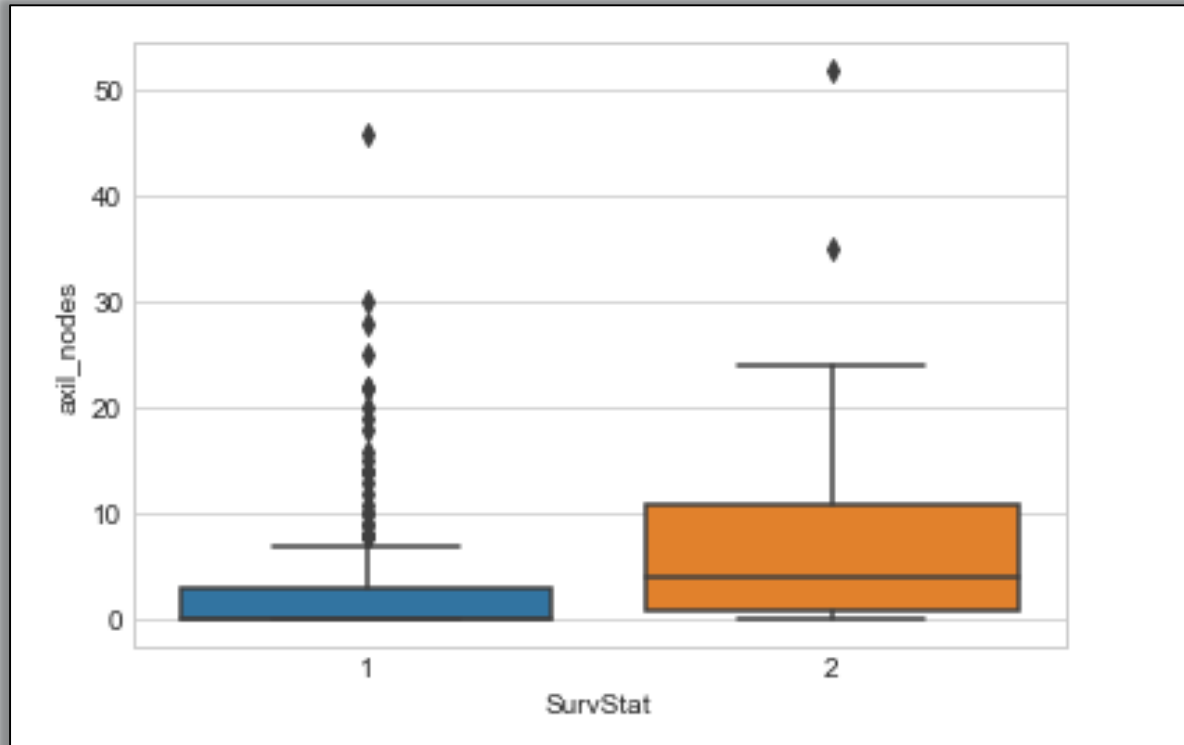
Univariate Analysis Techniques for Data Visualization

2. Box and Whisker Plot



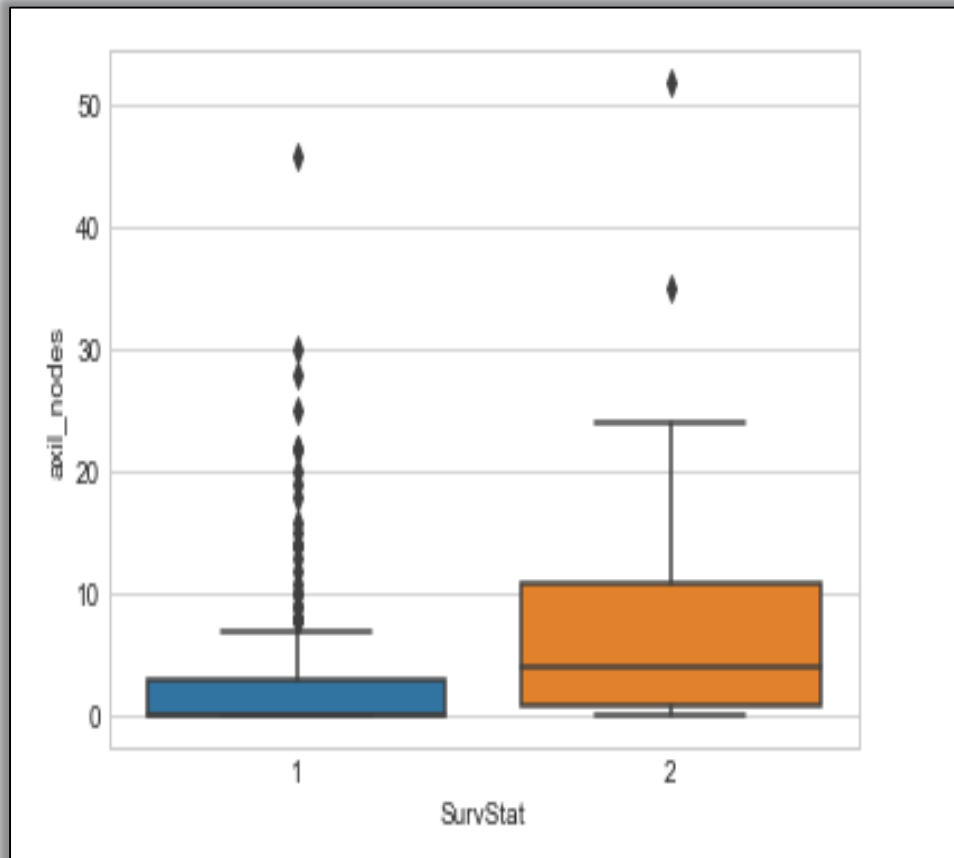
Univariate Analysis Techniques for Data Visualization

2. Box and Whisker Plot



Univariate Analysis Techniques for Data Visualization

2. Box and Whisker Plot

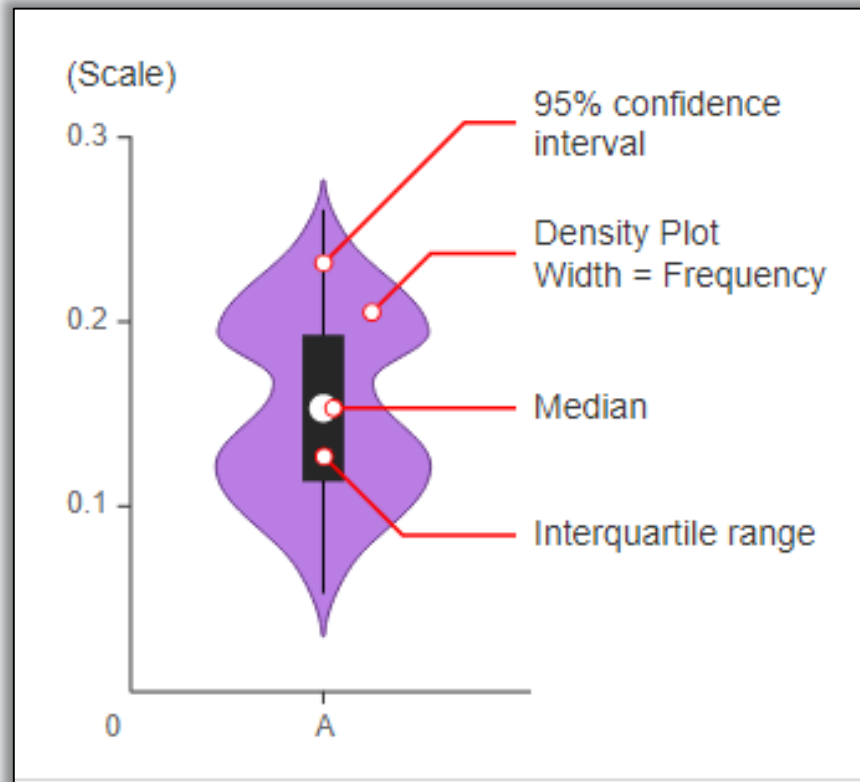


Univariate Analysis Techniques for Data Visualization

3. Violin Plot

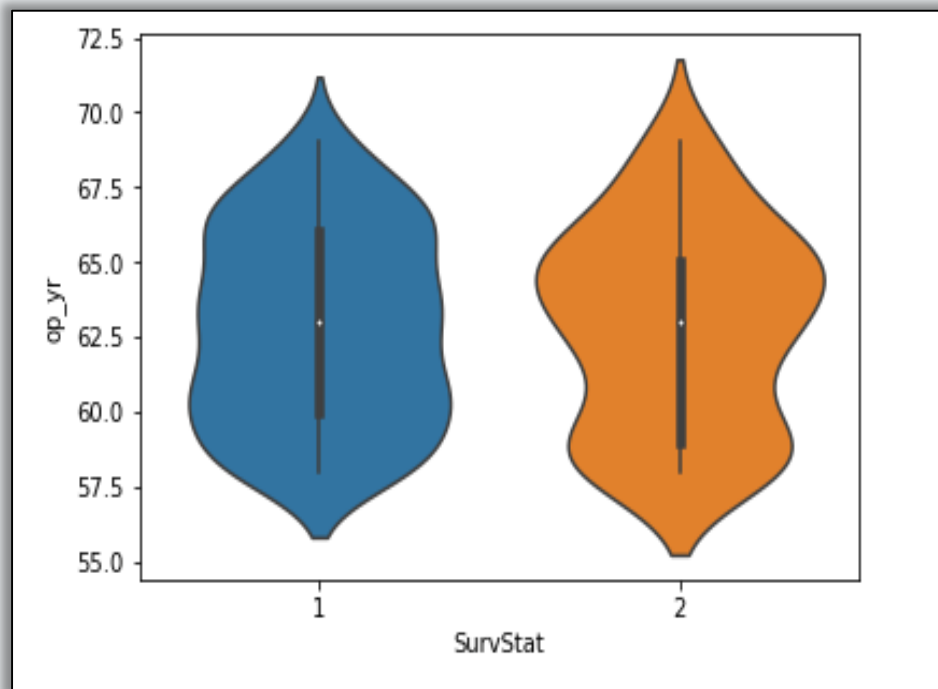
Univariate Analysis Techniques for Data Visualization

3. Violin Plot



Univariate Analysis Techniques for Data Visualization

3. Violin Plot

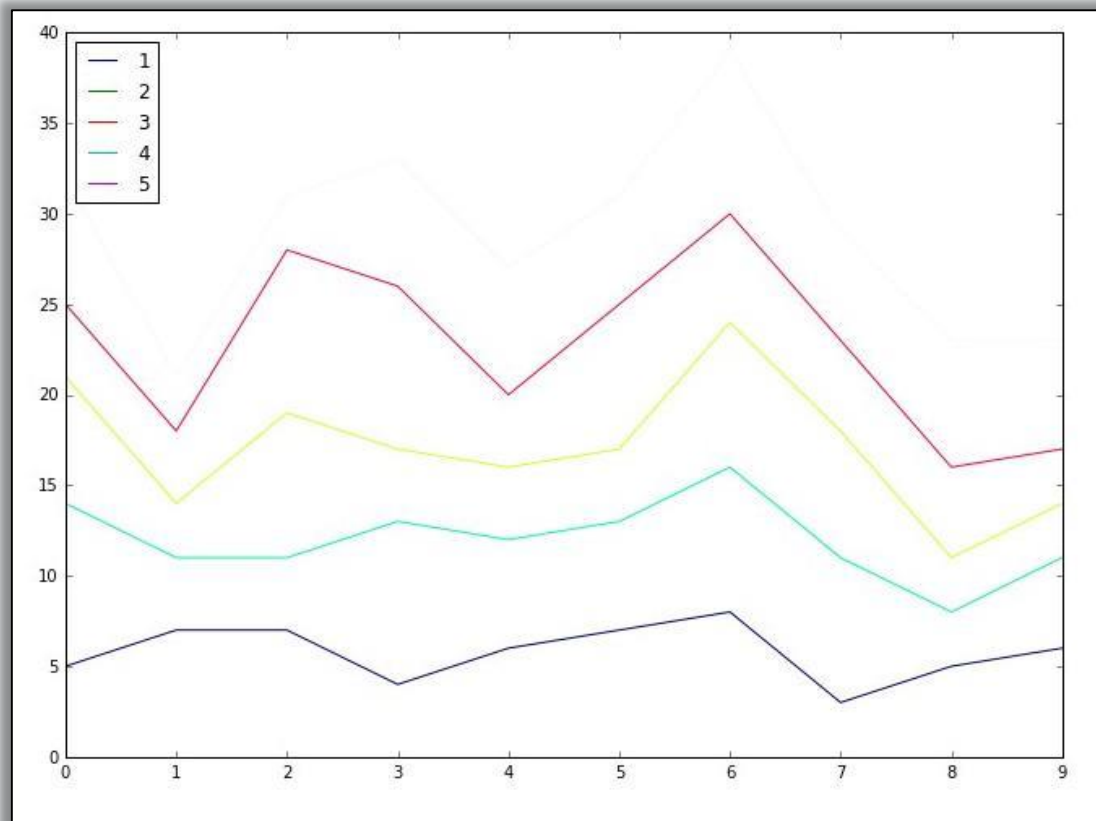


Bivariate Analysis Techniques for Data Visualization

1. Line Plot

Bivariate Analysis Techniques for Data Visualization

1. Line Plot



Bivariate Analysis Techniques for Data Visualization

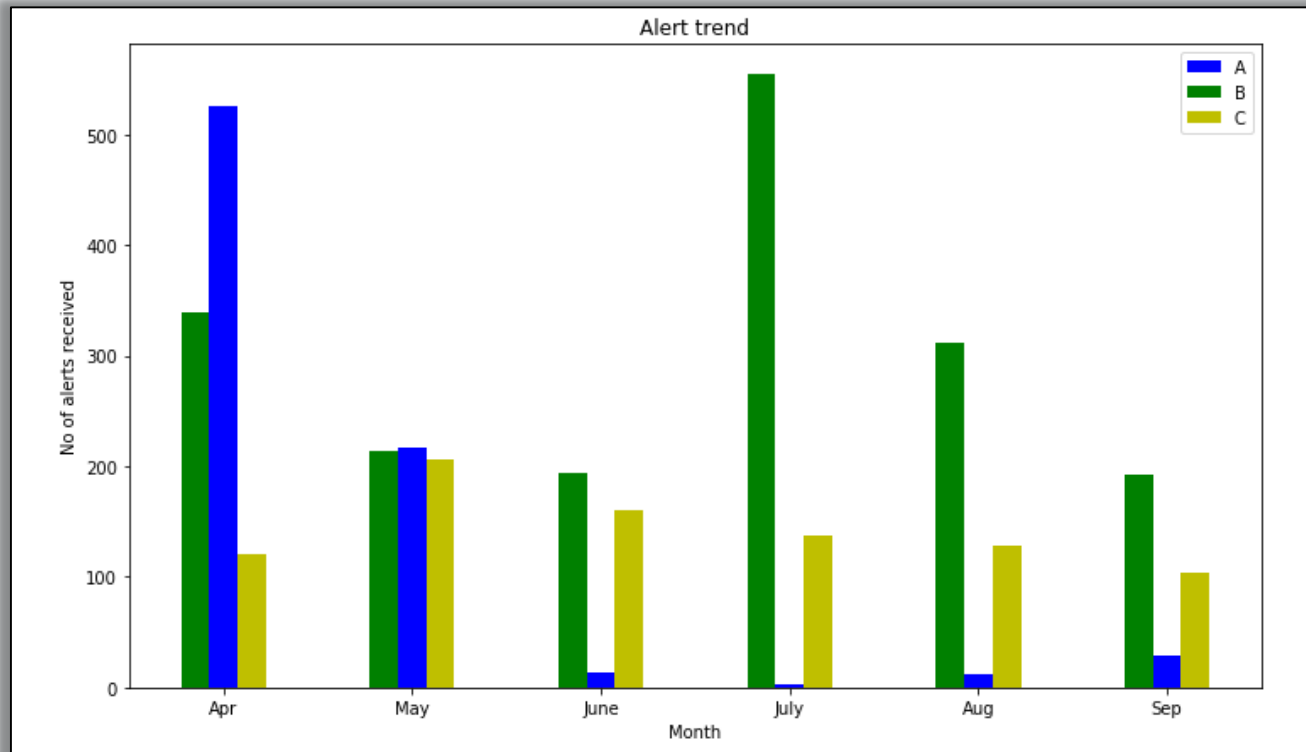
1. Line Plot

Bivariate Analysis Techniques for Data Visualization

2. Bar Plot

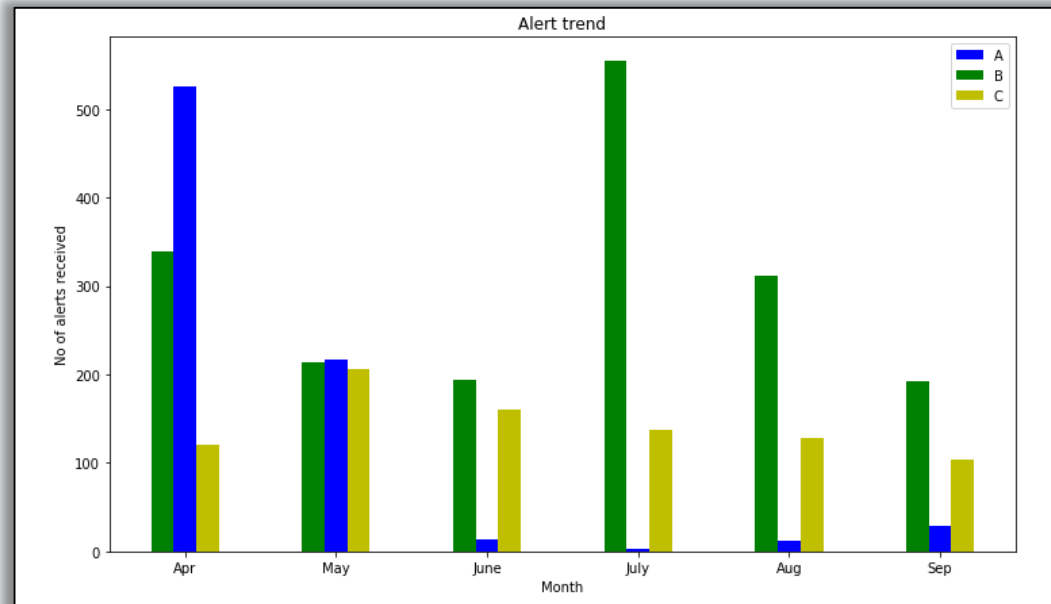
Bivariate Analysis Techniques for Data Visualization

2. Bar Plot



Bivariate Analysis Techniques for Data Visualization

2. Bar Plot

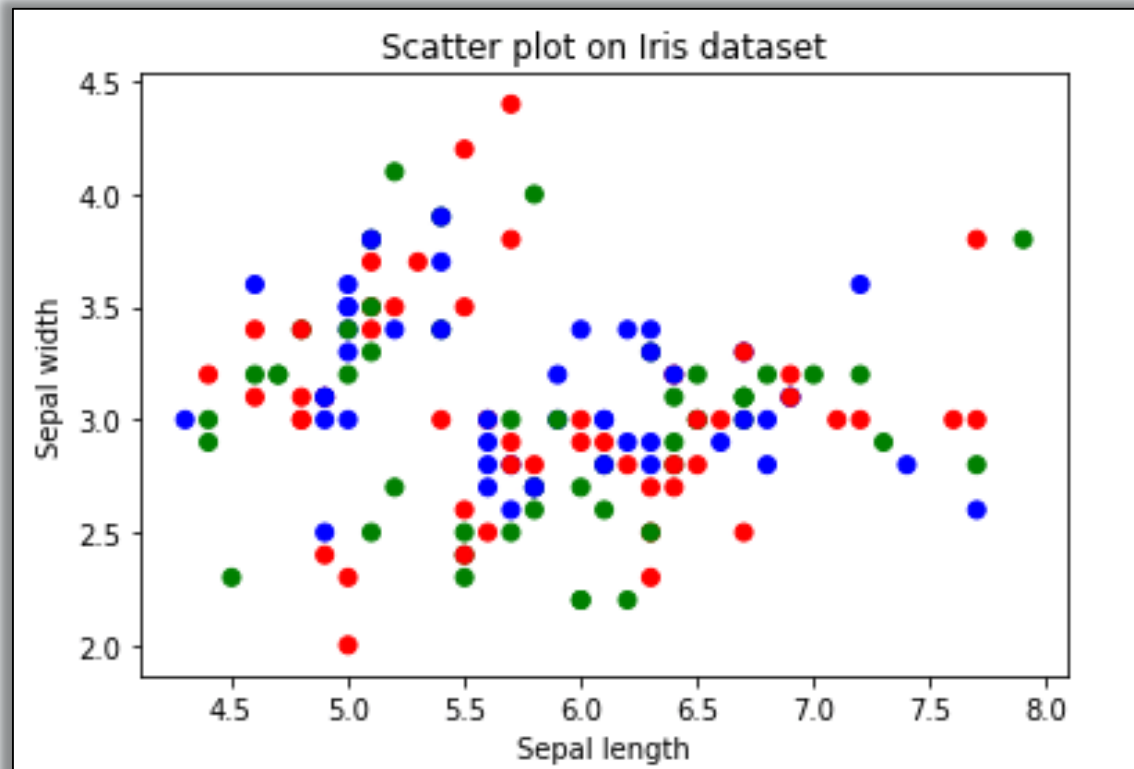


Bivariate Analysis Techniques for Data Visualization

3. Scatter Plot

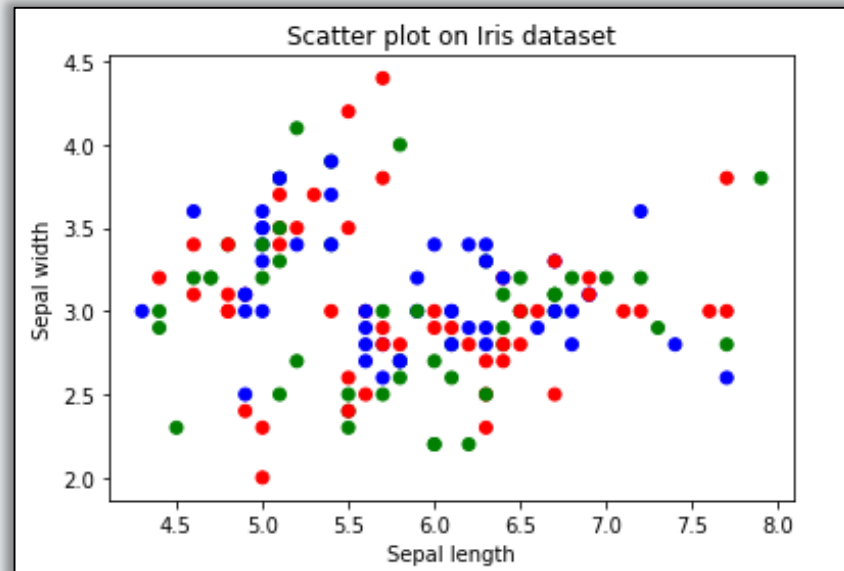
Bivariate Analysis Techniques for Data Visualization

3. Scatter Plot



Bivariate Analysis Techniques for Data Visualization

3. Scatter Plot





That's all for now...