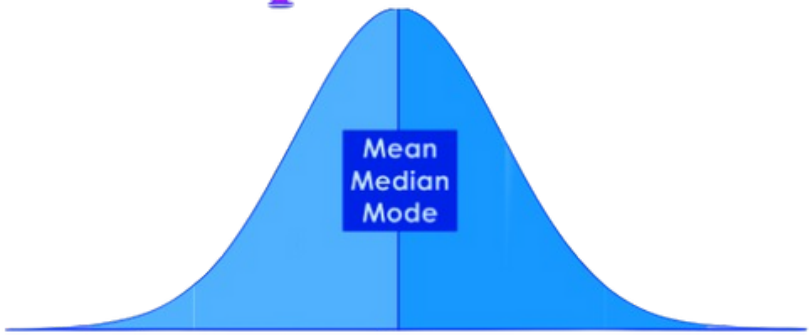
Data Analyst Perspective

STATISTICS

Descriptive statistics



Agenda

- WHAT IS DESCRIPTIVE STATS
- KEY COMPONENTS OF DESCRIPTIVE STATS
- GET TO KNOW EACH COMPONENTS
- APPLICATIONS OF DESCRIPTIVE STATS

WHAT
IS DESCRIPTIVE STATISTICS

- Descriptive statistics refer to statistical methods that **summarize and organize the characteristics of a dataset.**
- It's called **"descriptive"** statistics because these methods are used to describe the basic features of data in a study.
- **Summarize large amounts of data** in a meaningful way and more understandable forms, such as averages or percentages, which can be more easily interpreted.

Data

Descriptive statistics

Skewness

5 Point Summary

Range

Kurtosis

Mean

Mode

Distribution

Variance

Percentile

KEY COMPONENT
OF DESCRIPTIVE STATISTICS

- Measures of Central Tendency
- Measures of Variability (Dispersion)
- Measures of Shape
- Five-Number Summary

CENTRAL TENDENCY

- Statistical measures that represent the **center or typical value of a dataset**.
- It provides an indication of where **most data points tend to cluster** and is crucial for summarizing and understanding data.
- Provides a single value that summarizes the entire distribution and **helps in comparing** different datasets or groups.

VARIABILITY

- Variability (or dispersion) describe the extent to which **data points in a dataset differ from the central value**, providing insight into the spread or diversity of the data.
- These measures help to understand how much individual data points deviate from the mean or median.
- **Low variability** suggests consistent data, while **high variability** indicates more spread.

SHAPE

- Describe the distribution's characteristics beyond central tendency and dispersion, providing insights into how data is distributed.
- They help to understand the nature of the distribution, including its **asymmetry and peakedness.**
- Helps to detect data distributions with **extreme values or outliers.**

5 NUMBER SUMMARY

- Five-number summary is a concise way to describe the distribution of a dataset by summarizing its key statistical features.
- Helps in identifying **potential outliers** when visualized in a box plot.
- Offers a **concise summary** of the dataset's central tendency and variability.

APPLICATIONS
OF DESCRIPTIVE STATS

- **Performance Metrics**: Companies use descriptive statistics to summarize key performance indicators **(KPIs)** like average sales, customer satisfaction scores, and financial returns.
- **Market Research:** Analysts use measures of central tendency and variability to understand **consumer behavior, segment markets, and evaluate trends.**
- **Census Data:** To **summarize demographic data**, including population distribution, income levels, and employment rates.

THANK YOU

Share your thoughts and feedback !!