

Understanding Data Visualization

- **Data Visualization:** The graphical representation of information and data to make insights clearer and easier to understand.
- **Chart:** A visual representation of data, such as a bar chart, line chart, or pie chart.
- **Graph:** A plot that shows relationships between variables, often used interchangeably with “chart.”
- **Dashboard:** A collection of visualizations and metrics displayed together to monitor data.
- **Bar Chart:** A chart that uses rectangular bars to compare values across categories.
- **Line Chart:** A chart that uses points connected by lines to show trends over time.
- **Scatter Plot:** A visualization that shows the relationship between two variables using points in a coordinate system.
- **Histogram:** A chart that displays the frequency distribution of a dataset by grouping values into bins.
- **Pie Chart:** A circular chart divided into slices to show proportions of a whole.
- **Heatmap:** A visualization that represents data values using colors in a grid.
- **Box Plot (Whisker Plot):** A visualization showing data distribution, highlighting the median, quartiles, and potential outliers.
- **Bubble Chart:** A variation of a scatter plot where the size of each point represents an additional variable.
- **Tree Map:** A visualization that displays hierarchical data as nested rectangles.
- **Network Graph:** A visualization that shows relationships or connections between entities (nodes and edges).
- **Design Principles (Visualization):** Guidelines such as clarity, accuracy, and simplicity used to create effective data visualizations.
- **Color Theory:** The study of how colors can be used in visualizations to improve readability and convey meaning.
- **Annotation:** Adding labels, text, or highlights to visualizations to provide context.
- **Interactivity:** Features in visualizations that allow users to explore data dynamically (e.g., filters, tooltips).
- **Storytelling with Data:** The practice of combining data visualizations with narrative to communicate insights effectively.
- **Exploratory Visualization:** Visualizations used to explore datasets and uncover patterns.
- **Explanatory Visualization:** Visualizations created to communicate a specific insight or conclusion.
- **Data-Ink Ratio:** A principle from Edward Tufte emphasizing maximizing data representation while minimizing non-essential elements.
- **Chartjunk:** Unnecessary or distracting design elements in a visualization that do not contribute to understanding.
- **Misleading Visualization:** A poorly designed or manipulative chart that distorts the message of the data.
- **Data Granularity:** The level of detail represented in a visualization.
- **Dimensionality (Visualization):** The number of variables displayed in a visualization (e.g., 2D scatter plot vs. 3D plot).
- **Best Practices (Visualization):** Standards such as using appropriate chart types, clear labels, consistent scales, and accessible color schemes.