

The Data Visualization Cheat Sheet

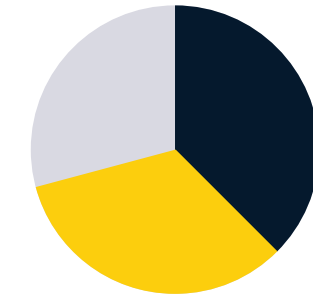
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How to use this cheat sheet

Use this cheat sheet for inspiration when making your next data visualizations. For more data visualization cheat sheets, check out our cheat sheets repository [here](#).

> Part-to-whole charts

Pie chart



One of the most common ways to show part to whole data. It is also commonly used with percentages

- USE CASES**
1. Voting preference by age group
 2. Market share of cloud providers

Donut pie chart



The donut pie chart is a variant of the pie chart, the difference being it has a hole in the center for readability

- USE CASES**
1. Android OS market share
 2. Monthly sales by channel

Heat maps



Heatmaps are two-dimensional charts that use color shading to represent data trends.

- USE CASES**
1. Average monthly temperatures across the year
 2. Departments with the highest amount of attrition over time

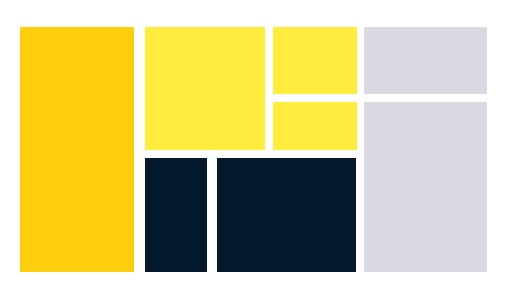
Stacked column chart



Best to compare subcategories within categorical data. Can also be used to compare percentages

- USE CASES**
1. Quarterly sales per region
 2. Total car sales by producer

Treemap charts



2D rectangles whose size is proportional to the value being measured and can be used to display hierarchically structured data

- USE CASES**
1. Grocery sales count with categories
 2. Stock price comparison by industry and company

> Capture a trend

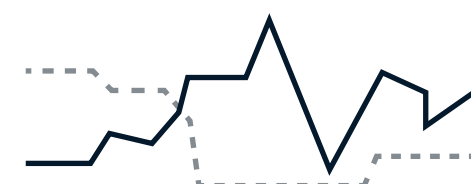
Line chart



The most straightforward way to capture how a numeric variable is changing over time

- USE CASES**
1. Revenue in \$ over time
 2. Energy consumption in kWh over time
 3. Google searches over time

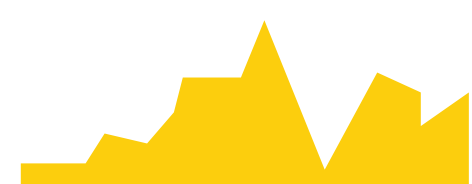
Multi-line chart



Captures multiple numeric variables over time. It can include multiple axes allowing comparison of different units and scale ranges

- USE CASES**
1. Apple vs Amazon stocks over time
 2. LeBron vs Steph Curry searches over time
 3. Bitcoin vs Ethereum price over time

Area chart



Shows how a numeric value progresses by shading the area between line and the x-axis

- USE CASES**
1. Total sales over time
 2. Active users over time

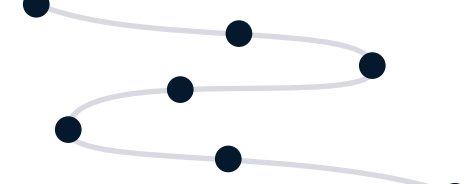
Stacked area chart



Most commonly used variation of area charts, the best use is to track the breakdown of a numeric value by subgroups

- USE CASES**
1. Active users over time by segment
 2. Total revenue over time by country

Spline chart

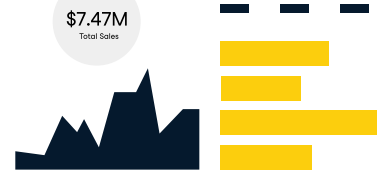


Smoothed version of a line chart. It differs in that data points are connected with smoothed curves to account for missing values, as opposed to straight lines

- USE CASES**
1. Electricity consumption over time
 2. CO2 emissions over time

> Visualize a single value

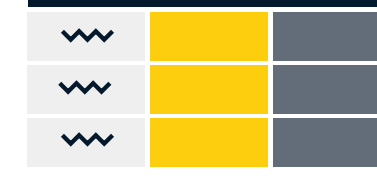
Card



Cards are great for showing and tracking KPIs in dashboards or presentations

- USE CASES**
1. Revenue to date on a sales dashboard
 2. Total sign-ups after a promotion

Table chart



Best to be used on small datasets, it displays tabular data in a table

- USE CASES**
1. Account executive leaderboards
 2. Registrations per webinar

Gauge chart



This chart is often used in executive dashboard reports to show relevant KPIs

- USE CASES**
1. NPS scores
 2. Revenue to target

> Capture distributions

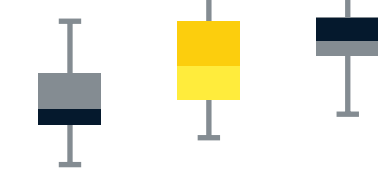
Histogram



Shows the distribution of a variable. It converts numerical data into bins as columns. The x-axis shows the range, and the y-axis represents the frequency

- USE CASES**
1. Distribution of salaries in an organization
 2. Distribution of height in one cohort

Box plot



Shows the distribution of a variable using 5 key summary statistics—minimum, first quartile, median, third quartile, and maximum

- USE CASES**
1. Gas efficiency of vehicles
 2. Time spent reading across readers

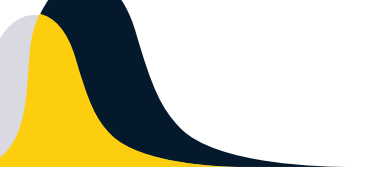
Violin plot



A variation of the box plot. It also shows the full distribution of the data alongside summary statistics

- USE CASES**
1. Time spent in restaurants across age groups
 2. Length of pill effects by dose

Density plot



Visualizes a distribution by using smoothing to allow smoother distributions and better capture the distribution shape of the data

- USE CASES**
1. Distribution of price of hotel listings
 2. Comparing NPS scores by customer segment

> Visualize relationships

Bar chart



One of the easiest charts to read which helps in quick comparison of categorical data. One axis contains categories and the other axis represents values

- USE CASES**
1. Volume of google searches by region
 2. Market share in revenue by product

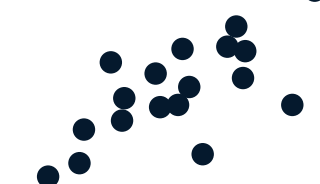
Column chart



Also known as a vertical bar chart, where the categories are placed on the x-axis. These are preferred over bar charts for short labels, date ranges, or negatives in values

- USE CASES**
1. Brand market share
 2. Profit Analysis by region

Scatter plot



Most commonly used chart when observing the relationship between two variables. It is especially useful for quickly surfacing potential correlations between data points

- USE CASES**
1. Display the relationship between time-on-platform and churn
 2. Display the relationship between salary and years spent at company

Connected scatterplot



A hybrid between a scatter plot and a line plot, the scatter dots are connected with a line

- USE CASES**
1. Cryptocurrency price index
 2. Visualizing timelines and events when analyzing two variables

Bubble chart



Often used to visualize data points with 3 dimensions, namely visualized on the x-axis, y-axis, and with the size of the bubble. It tries to show relations between data points using location and size

- USE CASES**
1. Adwords analysis: CPC vs Conversions vs Share of total conversions
 2. Relationship between life expectancy, GDP per capita, & population size

Word cloud chart



A convenient visualization for visualizing the most prevalent words that appear in a text

- USE CASES**
1. Top 100 used words by customers in customer service tickets

> Visualize a flow

Sankey chart



Useful for representing flows in systems. This flow can be any measurable quantity

- USE CASES**
1. Energy flow between countries
 2. Supply chain volumes between warehouses

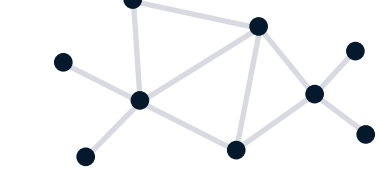
Chord chart



Useful for presenting weighted relationships or flows between nodes. Especially useful for highlighting the dominant or important flows

- USE CASES**
1. Export between countries to showcase biggest export partners
 2. Supply chain volumes between the largest warehouses

Network chart



Similar to a graph, it consists of nodes and interconnected edges. It illustrates how different items have relationships with each other

- USE CASES**
1. How different airports are connected worldwide
 2. Social media friend group analysis

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