

# **DATA VISUALIZATION**

Data visualization refers to techniques used to communicate insights from data through visual representation. Data visualization is the graphical representation of information and data. Data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data.

After data is collected, processed, and modeled, the relationships need to be visualized so a conclusion can be made for approaching data science tasks.

## **The Importance of Data Visualization**

We are in an inherently visual world, where images speak louder than words. Data visualization is especially important when it comes to big data and data analysis projects.

Nowadays more and more companies are using machine learning to collect mass amounts of data. While it's great that they're able to do this so quickly and effectively, it also calls for a way to sort through, comprehend, and explain this data in a way that makes sense to both the business owners and stakeholders. The same concept applies to advanced data analysis projects. When data scientists are in the midst of a complex project, they need a way to understand the data that's being

collected so that they can monitor and tweak their process to ensure it's performing the way it should.

The results from complex algorithms are much easier to understand in a visual format as opposed to lines and lines of text and numbers. Data visualization is truly important for any career; from teachers trying to make sense of student test results to computer scientists trying to develop the next big thing in artificial intelligence, it's hard to imagine a field where people don't need to better understand data.

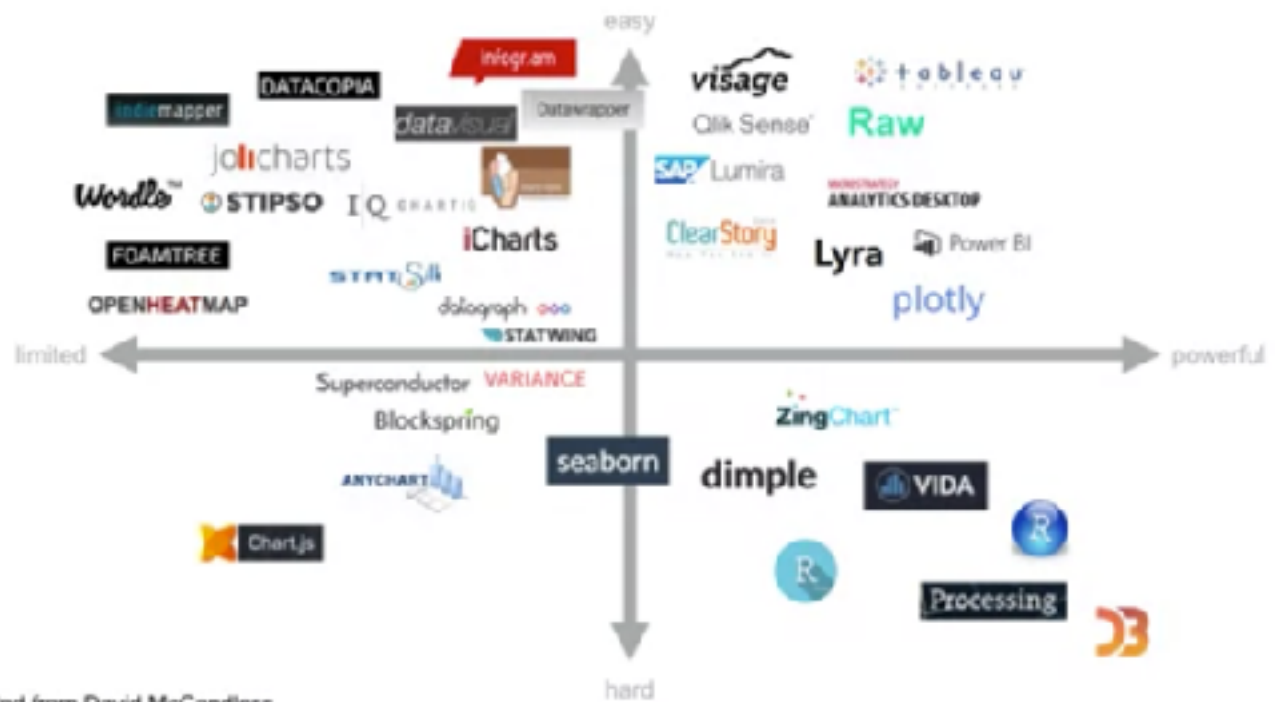
## **How data visualization works**

Data visualization involves handling tons of data that will be converted into meaningful visuals using widgets. To achieve this, we require the best software tools to operate various types of data sources such as files, web API data, database-maintained sources, and others. Organizations should choose the best data visualization tool to meet all their requirements. At a minimum, the tool should support interactive visual creation, flexible connectivity to data sources, combining data sources, automatic refresh of data, sharing visuals with others, secured access to data sources, and exporting widgets. These features allow you to make the best visuals of your data and also save your business time.

***The best data visualization tools*** include Google Charts, Tableau, Grafana, Chartist.js, FusionCharts, Datawrapper, Infogram, ChartBlocks, and D3.js. The best tools offer a variety of visualization styles, are easy to use, and can handle large data sets

## THE DATA VISUALIZATION TOOL MARKET

An analysis of ease of use and capability



: Adapted from David McCandless

We should focus on tools which is easy to learn and at the same time is very powerful.

