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DATA VIZUALIZATION MAKES SENSE OF BIG DATA



D.A. Parkhomenko
Senior lecturer
BSUIR

Belarusian State University of Informatics and Radioelectronics
E-mail: dparkhomenko@bsuir.by

D.A. Parkhomenko

Graduated from the Belarusian State University of Pedagogy; has Master degree in Techniques and Technology.

Abstract. Big Data still remains to be an emerging trend. Today when many businesses and enterprises start to lean on data driven economy while making their decisions, the demand in data analytics professionals has increased. Data visualization is the process of graphically illustrating data sets to discover hidden patterns, trends, and relationships in order to develop key insights. Data visualization uses data as a basis for the creation of graphs, charts, plots, and other images.

Keywords: data, Big Data, data visualization, data analytics, graphical illustration.

Introduction

Data visualization is an interdisciplinary field that deals with the graphic representation of data. It is a particularly efficient way of communicating when the data is numerous, especially when we deal with Big Data.

Big Data typically refers to any large quantity of raw data that can be collected, stored, and analyzed through various means that reveals patterns or trends relating to behaviors – particularly that of consumers – which can be used to maximize a business' potential. Big Data makes value, providing with the answers, which are not obvious from the first view, without analyzing. Big Data provides a point of reference. Every company uses data; the more efficiently that a company uses its data, the more potential it has to flourish.

Today when many businesses and enterprises lean on data driven economy in making their decisions, the demand in data analytics professionals is increasing. It is much easier to understand data in a visual form than to comprehend it as a simple spreadsheet or in other quantitative formats. That is why data visualization is a real support in decision making based on understanding data, especially understanding huge missives of data. A good visualization tells a story, removing the noise from data and highlighting the useful information

Data visualization has its roots in the field of Statistics and is generally considered a branch of Descriptive Statistics. To visualize effectively both design skills and statistical and computing skills are required.

Data visualization is the technique to assist people in understanding the significance of data by arranging it in the visual context. When text-based data is exposed in any data visualization tool, a viewer can easily recognize any patterns, trends, and correlations in data. The images used in data visualization have interactive and dynamic capabilities that allow users to manipulate them, extract data for querying and deep analysis.

Data visualization is not limited to standard charts and graphs made in Microsoft Excel spreadsheet, the number of ways is available to display data such as dials and gauges, geographic maps, infographics,

heat maps, bar and pie charts, etc.

Suppose a data scientist looks for writing advanced predictive analytics or machine learning algorithms, it is necessary for him to visualize the outcomes to direct the results and ensure that algorithms work fine.

Sometimes, data sets are so large that it is almost impossible to discern anything useful from them. That is where data visualizations come in. Data Visualization, also called Visual Analytics, uses higher-level tools such as Tableau or such programming tools as R, Python, and libraries that support it.

Data visualization tools can automate the process of creating a visualization. These data visualizations may be used for a variety of purposes: dashboards, annual reports, sales and marketing materials, investor slide decks, and virtually anywhere else information needs to be interpreted immediately.

The best data visualization tools have some things in common:

–they are easy to use;

–they can handle huge sets of data;

–they can output an array of different chart, graph, and map types;

–there are cost considerations. While a higher price tag does not necessarily disqualify a tool, the higher price tag has to be justified in terms of better support, better features, and better overall value [4].

To summarize, living at the “Age of Big Data”, visual approaches in Data Analytics and data visualization tools are effective way to make sense of the trillions of rows of data generated every day. Data visualization helps to tell stories by curating data into a form easier to understand, highlighting the trends and outliers.

References

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ВИЗУАЛИЗАЦИЯ ДАННЫХ ПОМОГАЕТ ПОНИМАТЬ БОЛЬШИЕ ДААННЫЕ

Д.А. ПАРХОМЕНКО

Старший преподаватель

БГУИР

Белорусский государственный университет информатики и радиоэлектроники

E-mail: dparkhomenko@bsuir.by

Аннотация. Большие данные по-прежнему остаются в тренде. Сегодня, когда многие бизнесы и предприятия при принятии решений начинают полагаться на экономику, основанную на данных, спрос на профессионалов в области анализа данных и растет. Визуализация данных - это процесс графической иллюстрации наборов данных для выявления скрытых закономерностей, тенденций и взаимосвязей для лучшего понимания, чтения данных, развитие новых идей на основе полученного знания. Визуализация данных использует данные как основу для создания графиков, диаграмм и других изображений.

Ключевые слова: данные, большие данные, визуализация анализ данных графическая иллюстрация.