Visualizing and Predicting Heart Diseases with an Interactive Dashboard

ABSTRACT

The main objective of the Project on Visualizing and Predicting Heart Diseases with an Interactive Dashboard is to detect 8 attributes such as age, chest pain type, blood pressure, blood glucose level, ECG in rest, heart rate and four types of chest pain to predict the heart disease . Exploratory Data Analysis (EDA) detects mistakes, finds appropriate data, checks assumptions and determines the correlation among the explanatory variables. In the result section, the visualized data shows that the prediction is accurate.

REFERENCES

1. An Interactive Dashboard for Monitoring the Spread of COVID-19 in Sudan **https://ieeexplore.ieee.org/document/9429561**
2. Need for Interactive Data Visualization in Public Health Practice: Examples– NCBI **https://www.ncbi.nlm.nih.gov/**
3. Interactive Visualization Applications in Population Health and Health Services **https://www.jmir.org/**
4. Development of a Health Dashboard for an Electronic Health Record System **https://ieeexplore.ieee.org/**
5. H-DRIVE: A Big Health Data Analytics Platform for Evidence-Informed Decision Making **https://ieeexplore.ieee.org/document/7207252/**
6. QualDash: Adaptable Generation of Visualisation Dashboards for Healthcare Quality Improvement **https://ieeexplore.ieee.org/document/9222315/**
7. Data analytics in medical data **http://ieeexplore.ieee.org/**

ADVANTAGES

1. Customizable.– Dashboards could be customized in terms of users and expectations. Each decision level dashboard can be customized to present the most valuable and useful set of information. This allows each person to see the level of detail that they need in order to get their job done and meet their goals.
2. All-in-one.- In the past users would spend large amount of time reviewing and analyzing different reports to end in a final conclusion. This tool allows to see, at a glance, an overall situation report of the desired information.
3. Drill into detail.- But, having all-in-one does not means the absence of details. Dashboards are developed with the ability to get as deeper in information as required by simply selecting the desired variable or object.
4. Intuitive data presentation.- There is no need for complicated and exhaustive training. Dashboards are design to be intuitive to any user. The graphic design allows an easy and smooth navigation throughout the information.
5. Mobile device accessible.- Most dashboards software are programmed to suit any mobile device. The idea is to reach anywhere, to everyone, in a timely manner with the most accurate information.

DISADVANTAGES

1. Dashboards can be overwhelming, particularly if they try to pack in too much information. It can be difficult for users to know where to look and what is most important.
2. Dashboards are often static, meaning that they don't update in real-time as data changes. This can make them less useful for tracking fast-moving trends.
3. Dashboards can get difficult to customize, meaning that users may not be able to tailor them to their specific needs. For these reasons, dashboards should be used carefully and only when they offer the best way to visualize the desired data.
4. Dashboards can also be misleading if they are not used correctly. It is easy to cherry-pick data (data bias) that supports a particular argument while ignoring data that does not. This is also called confirmation bias. As a result, dashboards should be used carefully and only as one part of a broader analytical approach.