

## Data Analytics in Healthcare

There is enormous growth of data in every sector that you can think of today, right from business to healthcare. With the Big Data revolution, people have realized the importance of data more than the processes that drive the business. If this big data is well organized and managed, data analytics can be applied to gain lot of insights about the data that would help the organizations in decision making and improve their services.

What is **Data Analytics**? It is a process of exploring and analysing large volumes of data to make predictions and help in decision making. They are mainly of three types: **Descriptive analytics**-answer questions about what happened, **Predictive analytics**-answer questions about what will happen in the future and **Prescriptive analytics**-answer questions about what should be done.

The amount of data generated in healthcare sector is enormous due to the kind of devices used with sensors capturing data, clinical reports, medical images etc. Data Analytics in Healthcare also known as Healthcare Analytics has shown lot of promise and it has lot to offer to improve the healthcare sector. Predictive Analytics is one such useful model in healthcare and some of the use cases are as listed below:

- Use predictive analytics to identify high-risk patients
- To optimize resource management
- Carefully track and measure patient intake and conditions
- Analyse provider performance and patient satisfaction
- Drug discovery

Researchers are using Predictive models of Machine Learning and Deep Learning to devise solutions which can predict the patient risk score based on his/her medical history and other relevant information. Cardiovascular diseases, Pneumonia, Respiratory and allergy disorders, Readmission count, and many have been predicted with significant results as reported in the research work.

I would like to summarize that Predictive Analytics in Healthcare sector is one of the hot research topics and there is lot of scope to work in this field. Research carried out will be of great help to the society as a whole.

Lastly, I would like to end by saying that “Bluedot” was one of the first organizations that forecasted the outbreak of COVID-19 before World Health Organization (WHO) in December using Big Data, Natural Language Processing, and Machine Learning

Swarnalata Bollavarapu  
Assistant Professor, Computer Engineering Department,  
MPSTME, NMIMS University