

Chapter 3

Usage of Big Data Prediction Techniques for Predictive Analysis in HIV/AIDS

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ABSTRACT

The term big data refers to the data that exceeds the processing or analyzing capacity of existing database management systems. The inability of existing DBMS to handle big data is due to its large volume, high velocity, pertaining veracity, heterogeneous variety, and on-atomic values. Nowadays, healthcare plays a vital role in everyone's life. It becomes a very large and open platform for everyone to do all kinds of research work without affecting human life. When it comes to disease, there are so many types found all over the world. But among them, AIDS (acquired immunodeficiency syndrome) is a disease that spreads so quickly and can easily turn life to death. There are many studies going on to create drugs to cure this deadly disease, but until now, there has been no success. In cases such as this, big data is implemented for better a result, which will have a good impact on society.

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INTRODUCTION

The rapid increase in population creates an issue in handling and analyzing the population data for the traditional data base management system. So Big data came into figure to solve the issue. Infectious disease are the disorder that happened in a normal body by organisms-such as bacteria, viruses, fungi or parasites. Some infectious diseases pass from one person to another person. Some are transmitted due to insects or animals bite. And others may happen by consuming contaminated food or water or by getting exposed to the organisms which present in the environment. AIDS (Acquired immunodeficiency syndrome) becomes a very fast spreading and turning the life to death, disease. HIV spreads from one person to another person in the population in many different ways that may be due to blood, semen and pre-seminal fluid (“pre-cum”), rectal fluids/anal mucous, vaginal fluids, breast milk. This chapter describes three types of measure those are oral meditative, Environmental Predicative and another one is a operational predicative measure. But till now there is no scope of operational measures, so it tends to null. But as if we will consider oral meditative measures then several medicines are invented for fighting with HIV/AIDS but that is only to sustain with the virus it does not eradicate the virus totally or the person cannot be cured from this disease. Environmental predicative measure includes many environmental factors, among them some factors are like poverty, cultural aspects, including religion and traditions, appear to play an essential role in the rapid and global development of AIDS epidemic. The provided measures will help the society for the better prevention of HIV/AIDS.

BIG DATA

Nowadays, data is coming in a very large and very fast manner, which becomes difficult for the traditional database to handle, so big data came to be. There are many characteristics of big data, but mostly 9v’s are considered. The main characteristics of big data are volume, velocity, veracity, verity, value, validity, volatility, variability, and visualization.

- Volume indicates the amount (Hammer et al., 2008) of data that may in Gbs or Tbs or more than that.
- Velocity is considered as how fast the data are created and collected.
- Validity means till which time extend the data will be valid. And it also indicates that how much the data is valid for the computation.
- Veracity means the truthfulness of data. Value means, how much the data is valuable.

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