
TERM PAPER

Big data management challenges in healthcare

Name: Priyanshu Gupta

Roll no: 19111042

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Introduction

What is Big data?

Big Data is a term used for addressing a huge and heterogeneous amount of data too large to be handled with common software systems. The information contained by this data set can be classified into various groups and many dimensions. Such versatile databases are fragile enough and immense in volume requiring a powerful and dynamic management system including software, infrastructure to meet today's demand and privacy and security concerns. Besides these, management should be powerful enough to make it available in real time, which will allow it to be analysed and used immediately.

Big data in healthcare

A similar demand follows in the healthcare systems. In the era of telemedicine, the digitalization of medicine along with medical records and all clinical test and experiment reports is becoming a standard in hospitals. Nowadays, every single information is working through cloud and healthcare is becoming one such discipline. This information from clinical studies, research and observations of individuals' lifestyle and environmental exposure are all of great value towards advanced health research, since they work as a training datasets for predictive models for the solution and ease of real life biomedical problems. The increasing availability of omics data from a single blood test to surgeries and research reports contributing to the Big data is becoming a major challenge across health research disciplines. The main issue is the need of reliable system to deal with a dataset whose size is beyond the management capabilities of normal database software. For effective analysis knowledge extraction of correct data is one of the many challenges.