

# Big Data Analytics and Medical Data Mining AI Applications

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## Editorial

Data mining is an important area of research that is used in a variety of domains such as finance, clinical research, education, and healthcare. Furthermore, many researchers in the domain of healthcare, which is an active interdisciplinary area of research, have thoroughly reviewed and surveyed the scope of data mining. In reality, extracting knowledge from medical data is a difficult and complex task. The primary goal of this review paper is to provide an overview of data mining in the context of healthcare. Furthermore, the intertwining and interrelationships of previous research have been presented in a novel way. Furthermore, the advantages and disadvantages of commonly used data mining techniques in the domain of health care and medical data have been weighed. The application of various data mining tasks in health care is also discussed. In addition, an analytical approach to the uniqueness of medical data in health care is presented [1].

Mobile health (m-health) refers to the use of mobile phones and patient monitoring devices to monitor one's health. It has frequently been regarded as the most significant technological breakthrough in the modern era. Artificial Intelligence (AI) and big data analytics have recently been used in m-health to provide an effective healthcare system. In modern medical research, various types of data such as Electronic Health Records (EHRs), medical images, and complicated text that are diverse, poorly interpreted, and extensively unorganized have been used. This is a significant reason for the emergence of various unorganized and unstructured datasets as a result of the emergence of mobile applications and healthcare systems [2].

Many organizations have used data mining extensively and extensively. Data mining is becoming increasingly popular, if not essential, in healthcare. All parties involved in the healthcare industry can benefit greatly from data mining applications. Data mining, for example, can assist healthcare insurers in detecting fraud and abuse, healthcare organizations in making customer relationship management decisions, physicians in identifying effective treatments and best practices, and patients in receiving better and more affordable healthcare services.

Traditional methods cannot process and analyses the massive amounts of data generated by healthcare transactions because they are too complex and voluminous. Data mining provides the methodology and technology to transform these mountains of data into actionable information. The process of discovering previously unknown patterns and trends in databases and using

that information to build predictive models is known as data mining. It can also be defined as the process of selecting and exploring data and building models using massive data stores to uncover previously unknown patterns [3].

Data mining is not a new concept; it has long been used by financial institutions for credit scoring and fraud detection, marketers for direct marketing and cross-selling or up-selling, retailers for market segmentation and store layout, and manufacturers for quality control and maintenance scheduling. Data mining is becoming increasingly popular, if not essential, in healthcare. A variety of factors have influenced the use of data mining applications in healthcare. Because of the prevalence of medical insurance fraud and abuse, many healthcare insurers have attempted to reduce their losses by utilizing data mining tools to help them find and track offenders. In the commercial world, fraud detection using data mining applications is common, for example, in the detection of fraudulent credit card transactions [4,5].

Another factor is that the massive amounts of data generated by healthcare transactions are far too complex and large to be processed and analyzed using traditional methods. By discovering patterns and trends in large amounts of complex data, data mining can improve decision-making. As financial pressures have increased the need for healthcare organizations to make decisions based on clinical and financial data analysis, such analysis has become increasingly important. Data mining insights can influence cost, revenue, and operating efficiency while maintaining a high level of care.

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