

Data-Driven Healthcare the Role of Big Data Analytics

Dhanashree J. Thakre¹, Vinay D. Bisane², Bhagyashree Kumbhare³, Yamini Kanekar⁴
Students, MCA, Smt. Radhikatai Pandav College of Engineering, Nagpur, India^{1,2}
HOD, MCA, Smt. Radhikatai Pandav College of Engineering, Nagpur, India^{3,4}

Abstract: *Big Data Analytics has emerged as a transformative force in the healthcare sector, enhancing decision-making, optimizing hospital operations, and improving patient outcomes. This paper explores the role of Big Data in healthcare, its benefits, applications, challenges, and future directions. By leveraging advanced analytics, machine learning, and cloud computing, healthcare institutions can provide efficient and personalized patient care while reducing costs and improving disease management. The healthcare industry is experiencing a significant transformation due to the rapid growth of big data analytics (BDA). This paper provides an overview of the role of big data analytics in healthcare, focusing on data sources, analytical techniques, challenges, and future opportunities.*

Keywords: Big Data Analytics, Healthcare Innovation, Predictive Analytics, Personalized Medicine, EHRs, AI in Healthcare , Real-time Monitoring