Guest Editorial Preface

Special Issue on Scope and Future of Machine Learning, Artificial Intelligence, and Big Data Analytics in Healthcare

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Healthcare is a sector that comes at the topmost priority for mankind. Science and Technology are being developed and utilized to fulfil the necessities, demands, and of course comfort and luxury. However, development comes with its challenges. Health issues prevalent in the past have a cure today, but new health care issues have been at the spur. Current society is health-conscious and likes to be precautious as well is willing to adopt the benefits of the latest technologies for the cure. Medical practitioners want to put their best in delivering with the help of the latest tools and technologies.

With the reach and adoption of wearable devices, the advent of IoT, and increased usage of the software's by medical practitioners, there is an increase in the availability of data, be it structured or unstructured. For storage and maintenance of a huge amount of Data, Big Data Technologies gained momentum and has already made its space in every sector.

The demand for analyzing available rich data is now raised for taking decisions, the conduct of research in the health care sector, or raising alarms like detection of diseases at an early stage. Advances in areas of Artificial Intelligence and its subdomains like Machine Learning and Deep Learning have a lot of scope in the facilitation of churning the Big data and building of machine models. There is no question that with data explosion; proven algorithmic models are need of the hour in health care and if wisely explored, developed, tested, and used they have the power to change the functioning of the health care sector.

This Special issue on "Scope and Future of Machine Learning, Artificial Intelligence and Big Data Analytics in Healthcare" caters to the facilitation of knowledge in the area of Big Data Analytics in Healthcare.

The Special issue includes four valuable and worth reading papers.

The first paper titled "Analysis of Heart Disease Using Parallel and Sequential Ensemble Methods With Feature Selection Techniques: Heart Disease Prediction" authored by Dhyan Chandra Yadav and Saurabh Pal showcases the usage of parallel and sequential ensemble methods to reduce drawbacks in prediction. The Random forest ensemble method calculated leads to high classification accuracy with low error. The second part of the paper represents an experiment that deals with J48, Reduced Error Pruning, and Decision Stump with three sequential ensemble methods, namely AdaBoostM1, XG Boost, and Gradient Boosting.

The second paper titled "Bayesian Kernel Methods: Applications in Medical Diagnosis Decision Making Processes (A Case Study)" authored by Vijay Kumar includes the Bayesian kernel method for medical decision-making problems as a case study which suits the purpose of other researchers in the enhancement of their research in the domain of medical decision making.

In a paper titled "A Novel Framework of Health Monitoring System" authored by Sonam Gupta, Lipika Goel, Abhay Kumar Agarwal, IoT based framework capable of monitoring and sending alerts on critical circumstances is discussed. The framework proposed by them helps take care of especially old wards and children in the absence or their caretakers. The framework is validated with real-time patients' data and prediction is made regarding the trends.

Mr. Ramesh R, Udayakumar E, Srihari K, Sunil Pathak have explored the increasing adoption of transmission of medical images through the internet in healthcare that has led to several security threats to patient medical information. Pictorial model-based perceptual image hash is used to provide content-based authentication for malicious tampering detection and localization. The presentation of the projected algorithm has been evaluated by them using performance metrics such as PSNR, normalized correlation, entropy, and histogram analysis and their simulation results show that the security services have been achieved effectively.

May these contributions become appreciated knowledge for the readers and support to researchers in the area of Big Data and Analytics in Healthcare Health Care Sector.

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