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J-BHI Special Issue on “Distributed Big Data Intelligence in Instantaneous E-healthcare Services”

Generally, big data in healthcare applies to large, complex e-health datasets that seem challenging to handle with typical data management hardware, software, and procedures. Clinical details of doctors, their prescriptions, laboratory data, CT pictures, insurance files, MRI images, and other data associated with administrative applications, EPR data, drugstore documents, and soon are all types of big data healthcare. The development and application of ML technologies promote the efficient use of Big Data in e-Healthcare. ML and AI approaches are sometimes used interchangeably. Allowing remote electronic accessibility and easy data processing, EHRs make patient data more available to patients, providers, and researchers. Incorporation of EHRs with diagnostic tests like genomic sequencing, MRIs, etc., gives ample platform for Big Data because it aids doctors to know the genetic reasons of cancers better and thus promotes more adequate treatment procedures and enhance screening and prevention measures. Oncology treatment, in particular, shows how Big Data can directly help patient care.

Big Data and digital healthcare technologies have the potential to revolutionize the entire healthcare systems by making it less expensive, more efficient, and of more excellent quality. Big Data facilitates fine-tune screening and prevention techniques, dramatically reducing the intensity of illnesses like advanced-stage malignancies and metastases. The EMR program has brought about data streams from patients at hospitals, doctors' offices, institutions, insurance offices, government sectors, etc. It offers services for accessing, organizing, and gleaning insights from massive e-Health digital data. It provides Data Stream configuration and provisioning to facilitate data federation and aggregation over streaming paths, application flow associations, and e-Health message segmentation during processing. The Big data analysis of EMRs, EHRs, and other medical information is constantly aiding in enhancing more robust prognostic schemas. Companies that impart clinical transformation services and healthcare analytics promote more effective results.

The current healthcare fraternity, which has recognized the promise of big data, has applied big data analytics in clinical procedures and healthcare. Besides, devices ranging from supercomputers to quantum computers support in retrieving meaningful information from massive amounts of data. Despite the infrastructural issues, researchers are delving into large quantities of biomedical data to extract novel insights that can make progress in the present state of healthcare. Clinical trials, insurance claims analysis, combined pharmacies, and biomarker identification are part of a diverse and meaningful healthcare Big Data analysis approach.

Topics of interest include, but are not limited to, the following:

- Analysis of real-time information to enable proactive patient care and data-driven decision-making using Big Data Analytics
- Big data-enabled Optimization of supply chain processes for strategic initiatives
- EHRs track and record patient's health data for improved patient care through Big Data
- Implementation of healthcare informatics and health IoTs
- Advancement of IoT-based body area networks for efficient placement and functioning of wearable sensors on isolated patients
- Integration of IoT with cloud, fog nodes, 5G edges, and big data for analytics, transport, and storage of medical data
- Deployment of Robotics and AI in Medicine and e-Health Services
- Novel frameworks on Big Data enabled Industry 4.0 and Extreme Automation for Healthcare
- Advances of Knowledge Discovery, Data Mining, and ML in instantaneous e-health care services
- Application of intelligent agent-based systems for providing security and privacy in big e-health informatics.

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