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Transformation of Health Sector Through Artificial Intelligence

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Abstract-In Today's World Artificial intelligence is growing in every sector of the industry.

Artificial Intelligence is the ability to perform cognitive functions such as perceiving, learning, reasoning, and solve problems. At its core, AI is about getting computers to do things that require human intelligence.

It has great potential to improve the health sector in both developed and developing countries by enhancing access to health information and making health services more efficient; they can also contribute to improving the quality of services and reducing their cost. Patient information systems, for example, can track individual health problems and treatment over time, giving insight into optimal diagnosis and treatment of the individual as well as improving the delivery of services.

This is particularly useful for chronic diseases, such as diabetes and cardiovascular diseases, and for maternal and child health services where a record of health and treatment over some time is required. Analysis of data in patient information systems can lead to new insight and understanding of health and disease, both chronic and acute diseases.

Introduction: Artificial Intelligence is being leveraged in many fields like industries: finance. telecommunication and transportation. The Primary reason AI is being applied to healthcare is how well suited it is for the industry. Artificial Intelligence and Machine Learning are the algorithms that can scrub colossal amounts of data—much faster and more accurately than human scientists or medical professionals—to unearth patterns and predictions to enhance disease diagnosis, inform treatment plans and enhance public health and safety. Based on the extraordinary impact improvements to the healthcare system

Artificial Intelligence in Health Sector works on the 5P Functionality

360 Degree Analysis

Patient Matching

Patient Journey

Predictive Algorithm

Delivering Trust and Values

Deploying an AI system by considering a diverse set of perspectives in the design and development process is just one part of introducing new health technology that requires human interaction. It is also important to study and incorporate real-life evaluations in the clinic, and engage meaningfully with clinicians and patients before the technology is widely deployed. That's how we can best inform improvements to the technology, and how it is integrated into care, to meet the needs of clinicians and patients.

For Example –

To help patients with heart conditions better monitor their health, Toshiba Electronics Taiwan Corp, a subsidiary of Toshiba, Japan, artificial Intelligence capabilities, and the Internet of Things Fundamentals (IoT). Patients are given wearable devices equipped with biometric sensors that can collect a constant stream of data, such as heart rate and blood oxygen. Trained to read and interpret patterns in this data, the artificial intelligence solution can distinguish between healthy and abnormal patterns with increasing accuracy.

It accounts for individual health characteristics with a sophisticated algorithm that adjusts the expected normal range based on a patient's initial readings. In the event of abnormal readings, the system raises an alert to help patients and caregivers take preventive action. In environments in which there is a shortage of doctors, caregivers can remotely monitor at-risk patients. By automating functions that are time-consuming for humans, the capabilities built for the new business help reduce reliance on doctors for routine readings and augment the work performed by caregivers. In turn, Toshiba, which operates in an already saturated market, has expanded into a new industry—consumer health and wellness

One more basic principality of AI is the Internet of Things (IoT) which is a sprawling set of technologies and use cases that has no clear, single definition. One workable view frames IoT as the use of network-connected devices, embedded in the physical environment, to improve some existing processes or to enable a new scenario not previously possible.

The Internet of Things (IoT) has been widely identified as a potential solution to alleviate the pressures on healthcare systems and has thus been the focus of much recent research. A considerable amount of this research looks at monitoring patients with specific conditions, such as diabetes or Parkinson's disease. Further research looks to serve specific purposes, such as aiding rehabilitation through constant monitoring of a patient's progress. Emergency healthcare has also been identified as a possibility by related works but has not yet been widely researched. Several related works have previously surveyed specific areas and technologies related to IoT healthcare. An extensive

survey is presented, with a focus placed on commercially available solutions, possible applications, and remaining problems. Each topic is considered separately, rather than as part of an overarching system.

That said, IoT technology could be adopted at even greater rates if concerns around regulatory compliance, security, and patient privacy are addressed. Resources are another concern – because budgets and resources are limited, healthcare organizations must prove sustained ROI(Return on Investment) to justify increased IoT project load. Examining research as a whole, IoT will continue to play an ever more critical role in improving the healthcare process and delivery.

According to CB Insights, healthcare is the hottest area of investment within AI. More than 100 companies have raised equity funding. From insights and analytics, imaging and diagnostics, drug discovery to remote patient monitoring, and virtual assistants, AI is poised to impact every aspect of healthcare.

A portfolio approach can help companies successfully unleash the power of machine intelligence AI in the Health Sector. Portfolio = Quick Wins + Long Term Projects redefine end-to-end processes optimization at a touchpoint.

Access, Accuracy, Trust, Accountability Artificial intelligence, and robotic technologies have long been seen as promising areas for healthcare. The explosion of healthcare data combined with the rise in demand from aging populations around the world, rising costs, and a shortage of supply – both in the number of healthcare professionals needed to treat and care for an increasing number of sick people and the availability and access to a broader range of necessary services than ever before – has left a monumental gap that only technology can fill.

But people are increasingly willing to engage with AI and robots if it means better access to healthcare. They want speed and accuracy of diagnosis and treatment and it is a critical factor for this willingness; and trust in the technology is vital for wider use and adoption, But- the ‘human touch’ remains a key component of the healthcare experience. Access to quality, affordable healthcare, and good health for everyone is the ultimate goal.

The economic and social advantages to be gained from integrating AI and robotics seamlessly into our existing healthcare systems, and then AI creates new models of healthcare based on these technologies, are enormous. Yet healthcare remains personal, and we must not lose sight of the human element. This will mean redefining the various roles of healthcare professionals, and ensuring that the necessary new skills are understood and taught in medical schools.

Conclusion- The role of Artificial Intelligence in Healthcare is not limited to these. As trends emerge and physicians look for newer ways to improve healthcare services and experiences for patients, we will have novel concepts turning into reality. While the healthcare space is buzzing with innovation, it will be a while before these systems can be made affordable, scalable, and available to all healthcare institutions.

AI working hand-in-hand with doctors, physicians, and healthcare providers are likely to continue to be the current course for a while, and eventually, it will get to a point where it will be a crawl-walk-run endeavor with less complex tasks being addressed

Reference

1) Understanding AI'S Fundamental values to health care IBM

2) Internet of Things for Smart Healthcare: Technologies, Challenges, and Opportunities Stephanie Baker, Wei Xiang, Senior Member, IEEE, and Ian Atkinson

3) IoT Signals Healthcare Spotlight: Microsoft

4) What doctor? Why AI and robotics will define New Health:PwC

5) Artificial Intelligence in Healthcare - A Comprehensive Account-Maruti Tech Lab