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Upward Thrust of Artificial Intelligence in Healthcare Startups in India

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ABSTRACT: Artificial intelligence (AI) has recently been emerging in healthcare. Artificial intelligence helps patients predict diseases for medical intervention. The application of artificial intelligence in healthcare is huge, used not only by doctors, but also by patients, the pharmaceutical industry, health services, insurance companies and healthcare institutions. Artificial intelligence helps in dermatology, echocardiography, retinal neurological screening, diagnostic process, surgery, angiography, etc. It provides a user-friendly approach for both doctors and patients and prepares feedback for the medical community for research. AI helps in monitoring, screening, providing clinical and medical studies for the patient.

KEYWORDS: Artificial intelligence, machine learning, robotics, radiology, healthcare market.

I. INTRODUCTION

India only produces about 50,000 doctors a year, which is not enough to meet the minimum standards. To achieve the WHO recommended minimum doctor-patient ratio of 1:1000, India will need 2.3 million doctors by 2030. The early experiments of at least a dozen healthcare startups hold some answers to how to move healthcare in India into the future and ease the burden. on India's healthcare system.1 Artificial intelligence (AI) underpins many concepts such as computing, software development and data transmission. Technologies that use AI are machine learning, deep learning, natural language generation, speech recognition, robotics, and biometric identification. Artificial intelligence is used in many industries, such as healthcare, assembly and manufacturing industries, business organizations, and the automotive industry.2 Artificial intelligence (AI) is defined as the intelligence of machines, as opposed to the intelligence of humans or other living species3 Artificial intelligence (AI) and related technologies are increasingly prevalent in business and society and are beginning to be applied in healthcare4, and artificial intelligence (AI) aims to mimic human cognitive functions. It is bringing a paradigm shift to healthcare, driven by the increasing availability of healthcare data and rapid advances in analytics techniques.5 It can increase the productivity and efficiency of care delivery and enable healthcare systems to provide more and better care to more people. AI can help improve the healthcare experience for doctors, allowing them to spend more time on direct patient care and reduce burnout.6 AI is making life easier for patients, doctors and hospital administrators by performing tasks that are usually performed by humans, but in less time . time and at a fraction of the cost.

II. REVIEW OF LITERATURE

The healthcare industry makes up a large portion of the United States' GDP and is ripe for disruption. The industry is multi-faceted and AI/Machine Learning will impact every aspect of healthcare. According to Morley et al9, health systems around the world are facing rising costs and deteriorating outcomes. Increasingly, policymakers, politicians, clinical entrepreneurs, and computer and data scientists are arguing that "artificial intelligence" (AI) – especially machine learning (ML) – will be a key part of the solution. Chung10 stated that artificial intelligence (AI) has become an important driver of growth and investment in the healthcare industry. In perhaps the most eye-catching example, heavyweights like IBM are using the promise of artificial intelligence to sell diagnostic systems like Watson for Oncology, which offers personalized treatment advice. Rayan11 said that artificial intelligence (AI) has made significant inroads into everyday life in the information technology era and has now entered healthcare. The study of artificial intelligence in healthcare is developing rapidly. However, this could only be the beginning of observing how this will affect patient care. AI tries to simulate human cognitive abilities. It brings a transformational formula to

healthcare, enhanced by the increasing availability of clinical data and accelerated advances in analytics systems. Kiseleva12 showed that the "black box" nature of artificial intelligence algorithms creates problems in their use in all areas where the decision-making process must be transparent and accountable. One of these areas is the healthcare industry. While transparency and accountability are rather unexplored in healthcare, this study first explores these concepts and differentiates their types in healthcare in general and in relation to the use of AI.

III.   GLOBAL ARTIFICIAL INTELLIGENCE IN HEALTHCARE MARKET SIZE

Artificial intelligence is one of the fastest growing industries in the world. The global artificial intelligence in healthcare market size was valued at USD 2.5 billion in 2018 and is expected to grow at a compound annual growth rate (CAGR) of 41.5% from 2019 to 2025.

IV.   ARTIFICIAL INTELLIGENCE (AI) IN HEALTHCARE MARKET IN INDIA

Artificial intelligence applications in healthcare are projected to be worth INR 431.97 billion by 2021. Based on this rise in AI applications in healthcare, India's doctor-patient ratio is expected to reach Rs. 6.9:1000 by 2023 from its 2017 ratio of Rs.4.8:1000. The ability of AI applications to improve physician efficiency will help address issues such as uneven doctor-patient ratios by providing high-quality healthcare to the rural population and training doctors and nurses to handle complex medical procedures.14 The adoption of artificial intelligence (AI) is significantly reshaping the Indian healthcare market . AI healthcare services such as automated analysis of medical tests, predictive healthcare diagnostics, automation of healthcare diagnostics using monitoring equipment and sensor-based wearable medical devices are expected to revolutionize the treatment processes in the country.

V.   OVERVIEW OF THE ARTIFICIAL INTELLIGENCE (AI) IN HEALTHCARE IN INDIA

A global health emergency like the coronavirus is a big focus for the healthcare industry, with all stakeholders fighting from the front lines. The pandemic has been called a structural shift for digital healthcare in many countries, including India. Many have said it is time for India to reboot healthcare and support health tech startups to plug gaps in the traditional healthcare system. Many healthcare industries in India also need automation for various tasks and are being assisted by AI in their industry.16 In recent years, India's startup ecosystem has seen a lot of growth. The country is among the top countries to reach millions in funding for tech startups in the past year. These startups are taking center stage through their own innovations and great services. On the other hand, the Indian healthcare space is expected to grow at a CAGR of 23 percent to a USD 280 billion market by 2020. And with the "Digital India" initiative, the government is stepping up efforts to bridge the health technology gap, an area where Indian startups already have momentum.17 Between April 2000 and June 2019, the country's hospitals and diagnostic centers attracted foreign direct investment (FDI) in worth $6.34 billion, according to DIPP data and reports indicate that India's healthcare market is one of the fastest growing sectors. According to the India Brand Equity Foundation (IBEF), India's healthcare industry is expected to reach $372 billion by 2022.18 Health-tech is changing the game, despite the fact that India has a long way to go in terms of using technology to passing on information. health related services. It is expected to generate 40 million jobs by 2030.19 Artificial intelligence techniques have recently sent huge waves across the healthcare industry, even fueling active debate about whether AI doctors will eventually replace human doctors in the future. We believe that human doctors will not be replaced by machines anytime soon, but AI can definitely help doctors make better clinical decisions or even replace human judgment in certain functional areas of healthcare.20 The healthcare sector in the Indian landscape is growing rapidly. , both in terms of income and growing market share. This growing market has given birth to many emerging healthcare startups in India. They target different healthcare segments, book appoint.
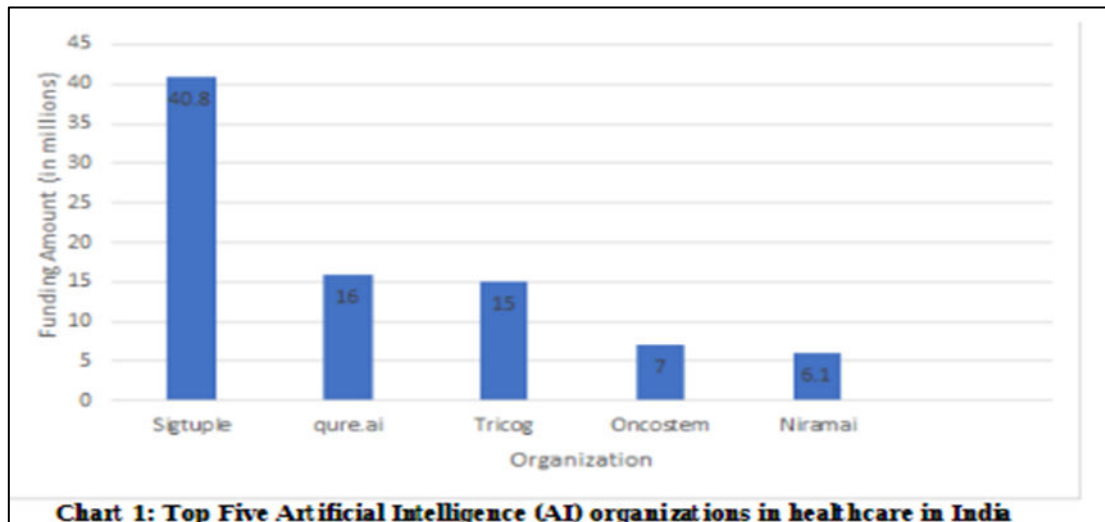
Chart 1: Top Five Artificial Intelligence (AI) organizations in healthcare in India

VI.   CONCLUSION AND FUTURE WORK

AI technology is helping to solve health problems in India, but it is limited by the nature of available medical information and the inability of human characteristics for some aspects. The Ai application aims to replace human intervention, but is unable to justify and convey information. Few healthcare facility clients have experienced false information or fraudulent activity. AI used to detect digital attacks, cyber attacks and protect the computer systems of medical services. Artificial intelligence systems used to justify not replacing human doctors with machines to make better clinical decisions. The AI application is intended to provide training, medical research, diagnosis, treatment procedures, decision making in wellness patient care. Artificial intelligence systems will become more advanced and achieve the ability to perform a wider range of tasks without human control or input. Artificial intelligence is developed and used in a way that is transparent and compatible with the public interest, while stimulating and supporting innovation in the industry.

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