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Artificial Intelligence: Advance Innovation Tool

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Abstract - *The motive of Artificial intelligence how to make computers useful in solving problems regarding healthcare challenges .We interpret the data which is obtained by diagnosis of various disease like various types of cancer, diabetes etc. AI has the largest scientific goal of constructing information - processing theory of intelligence. It is the science and engineering of making intelligent machines , especially intelligent computer programs .This paper introduce the artificial intelligence (AI).The study how to make computers that have some qualities of human mind. AI system are now in routine use in economic, medicine, and the military, also have the broad data to holding the potential to solve many problems in clinical trial challenges.*

This article gives a insight AI and its innovations. It is one of the top technologies shaping the future of pharmacy. It include various advance system such as mathematics, machining power, cloud computing and algorithm design have accelerated the development of methods that can be used to analyze, interpret and make predictions using these data sources. We can learn something about how to make machines solve problems by observing other People.There are two main areas which have seen a sporadic growth in research — Genomics and Digital Medicine. This paper examine the Artificial intelligence introduction, Definition of AI, history, applications and innovations in pharmacy.

***Key Words*: Artificial intelligence, Clinical Trial Challenges, Innovations, Disease Complications.**

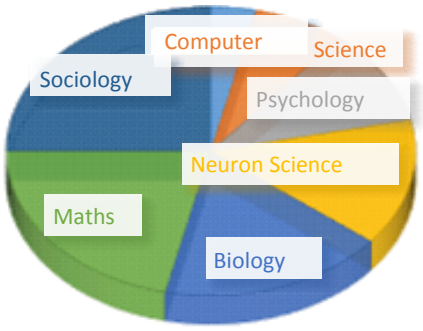
1. INTRODUCTION

The earliest work in medical artificial intelligence (AI) dates to the early 1970s, when the field of AI was about 15 years old (the phrase "artificial intelligence [1]" had been first coined at a famous Dartmouth College conference in 1956 Early AI in medicine (AIM) researchers had discovered the applicability of AI methods to life sciences, most visibly in the experiments of the late 1960s and early 1970s, which brought together computer scientists (e.g., Edward Feigenbaum), chemists (e.g., Carl djerassi), geneticists (e.g., Joshua Lederberg), and philosophers of science (e.g., Bruce Buchanan) in collaborative work that demonstrated the ability to represent and utilize expert knowledge in symbolic form.

1.1 What is Artificial Intelligence

AI allows programmers and users to overcome the many constraints of traditional decision support approaches ,such as rule based systems, which include difficulty in rule formulation and challenges in updating new rules.

1.2 Components of AI



The study of how to make computers that have some of the qualities of the human mind, for example, the ability to understand language, recognize pictures, solve problems. Artificial Intelligence (AI), Technology having the data for holding the potential to solve many problems in clinical trial challenges.

Non-communicable diseases (NCDs), also known as chronic diseases, are not passed from person to person. They are of long duration and generally slow progression. The four main types of non-communicable diseases are cardiovascular[2] diseases(like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes.

While AI and psychology interact with each other. Psychologist have borrow concept form AI as well as AI workers taking interest in psychological findings.

2. Applications of AI in medicine

AI applications will be utilized to reduce unnecessary testing, decrease the disparity in care throughout the United States and the rest of the world, and reduce hospital admissions and length of stay. This technology could be utilized to cross correlate data from a patient's family

history, find patients similar to that patient, and evaluate ultimate diagnoses and treatment responses. As genomic, proteomic, and metabolic databases become commonplace and searchable, the software will be able to utilize these data in making recommendations for patient screening and in formulating diagnostic and treatment recommendations. In addition to providing answers, the software could be utilized to ask additional pertinent questions to more effectively and safely direct a Non-communicable diseases (NCDs), also known as chronic diseases, are not passed from person to person. They are of long duration and generally slow progression. The four main types of non-communicable diseases are cardiovascular[2] diseases(like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes.

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3.1 Artificial Intelligence in Education Platform

i. Third space learning
ii. Little dragon
iii. Brainy
iv. CTI
v. Thinker maths
vi. Adaptive learning
vii. Proctoring
viii. Data accumulation
ix. Smart content
x. Chat box

3.2 Artificial Intelligence in Healthcare

AI lends in the field of healthcare sector very well. In recent few years there has been an exponential growth in the use of AI tools in clinical research and development of modern Medicine and helping healthcare sector to acquiring, evaluating, interpreting and applying to understand structured and unstructured database to manage and cure diseases.

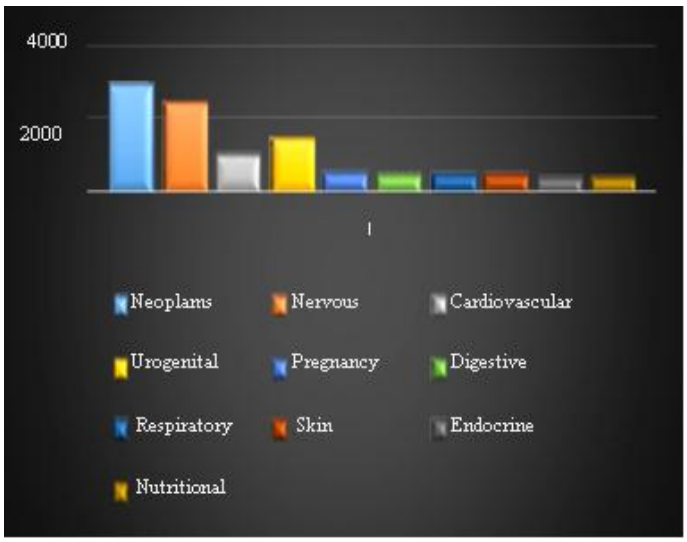

Fig.1 Artificial Intelligence in Healthcare

4. How is our organizations using AI

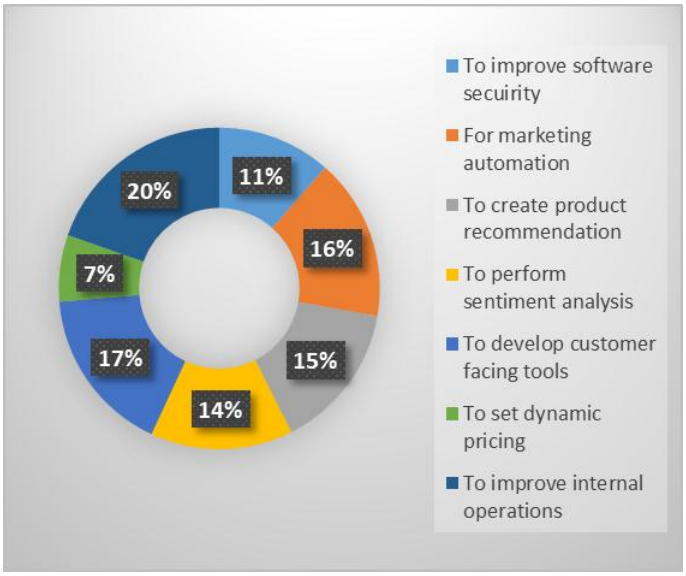

Fig. 2 Use of AI in different sectors

5. Innovations under AI in Healthcare[3]

5.1 More Accurate Cancer Diagnosis with AI

Developing machine learning to assist pathologists in making more accurate diagnoses. The company's current goals include reducing error in cancer diagnosis and developing methods for individualized medical treatment.

5.2 An Intelligent Symptom Checker

Health is an AI-based symptom and cure checker that uses algorithms to diagnose and treat illness. Here's how it works: a chat bot listens to a patient's symptoms and health concerns, then guides that patient to the correct care based on its diagnosis.

5.3 Earlier Cancer Detection With AI

Using AI in screenings, diagnostic tests and blood work to test for cancer. By deploying AI at general screenings, aims to detect cancer in its earliest stages and subsequently develop new treatments**.**

5.4 Diagnose Potentially Deadly Blood Diseases

AI-enhanced microscopes to scan for harmful bacteria (like E. coli and staphylococcus) in blood samples at a faster rate than is possible using manual scanning. The scientists used 25,000 images of blood samples to teach the machines how to search for bacteria. The machines then learned how to identify and predict harmful bacteria in blood with 95% accuracy.

5.5 AI Powered Radiology[4] Assistant

Radiologists with an AI-enabled assistant that receives imaging scans and automatically analyse them for various clinical findings it has studied. The findings are passed onto radiologists, who take the assistant's reports into consideration when making a diagnosis.

5.6 Developing New Medicine With AI

The drug development industry is bogged down by skyrocketing development costs and research that takes thousands of human hours. It costs about $2.6 billion to put each drug through clinical trials, and only 10% of those drugs are successfully brought to market.

5.7 Biopharmaceutical[5] Development

Identify and develop new medicines in the fields of immune, oncology and neuroscience. Additionally, the company's drug re-innovation program employs AI to find new applications for existing drugs or to identify new patients.

5.8 Treating Rare Disease With AI

Recently findings on Parkinson's Disease treatment-used AI to find links between chemicals in the human body that were previously unknown at the Neuroscience conference.

5.9 Platform For Digital Drug Discovery

Predicts the chemical and pharmaceutical properties of small-molecule candidates for drug design and development. Additionally, the company claims its crystal structure prediction technology (aka polymerph[6] prediction) predicts complex molecular systems within days rather than weeks or months.

5.10 AI In Clinical Trials

Predict bioactivity and identify patient characteristics for Clinical-Trials[7]. AI technology screens between 10 and 20 million genetic compounds each day and can reportedly deliver results 100 times faster than traditional pharmaceutical companies.

6. FUTURE ASPECTS IN AI

- Geoff Livingston, author and president of Tenacity Media, wrote, "I see the movement towards AI and robotics as evolutionary, in large part because it is such a sociological leap. The technology may be ready, but we are not at least, not yet."
- Stowe Boyd, lead researcher at Giga OM Research, said ,the central question of 2025 will be: What are people for in a world that does not need their labor , and where only a minority are needed to guide the 'bot-based economy?"
- Alex Howard, a writer and editor based in Washington, D.C., said, "I expect that automation and AI will have had a substantial impact on white- collar jobs, particularly back-office functions in clinics, in law firms, like medical secretaries, transcriptionists, or paralegals. Governments will have to collaborate effectively with technology companies and academic institutions to provide massive retraining efforts over the next decade to prevent massive social disruption from these changes.

7. CONCLUSION

Early detection of various acute and chronic diseases by artificial intelligence help to initiate the treatment for it. AI has increased the understanding of nature of intelligence and surprise us with the new ideas, topics, innovations in healthcare. It has sharpened understanding of human reasoning it also allow for a new way of thinking, coding and provide logic for a lot of health care problems. AI can help in diagnosis of diabetic complications, breast cancer, and heart related disease. It ease the treatment and the idea presented in this research helps to reduces or minimize the mortality rate and give more times to focus on treatment.

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