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THE ROLE OF ARTIFICIAL INTELLIGENCE IN COMBAT AGAINST COVID-19

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***Abstract*- In today's world, AI has helped many opportunities and numerous successful opportunities in our daily life story. Also, during the epidemic of the new coronavirus infection (covid-19) pandemic, ai played a key role in combatting it on the other hand. This article provided an introduction to AI. Applications used to combat coronavirus pandemic. From the internet of things (iot), text mining, medical imaging, biology and medicine, data analytics, AI has always played an important role. Motivated with modern technology and artificial intelligence wide range of applications that this paper is primarily focused on the importance of containing the spread of the covid-19 pandemic and find solutions to prevent its severe consequences coronavirus disease. By using deep learning techniques and artificial intelligence, many domains such as agriculture, medical, electronics, retail, healthcare, etc. Get better results and profits. This paper first represents a literature review, then various application of AI in the fight against covid-19. That is this paper hopes to provide researchers with new insights into how AI can help to improve the situation of covid-19 spread of the covid-19 outbreak.**

***Keywords* – coronavirus disease, machine learning, artificial intelligence, medical image processing, RT-PCR, computer audition.**

I. INTRODUCTION

The novel coronavirus disease (COVID-19) it has caused enormous chaos around the world. Take the lives of many people and cause the death of thousands Affecting the poor and Elderly, Disabled, Youth, Indigenous Peoples people. China has denied COVID-19. In the in Europe, as in Germany, cases are increasing daily China at the height of the epidemic and how the country has Italy It has surpassed the number of deaths from the virus. This It took 67 days to reach the first 100,000 confirmed cases Worldwide. Number of people infected with coronavirus increased more than 17.5 million times Death toll more than triples to 680,000 World Health Organization (WHO) statistics Aug. [1]. Using AI to create and analyze treatment plans infection rate, medical data analysis, pharmaceuticals Hotspot development, contact tracing and detection. Specialists believe in technological perspectives. In other fields, the impact of artificial intelligence will be greater. His ways in fighting the COVID-19 pandemic. Important. This paper mainly focuses on the important role of AI. How to fight the COVID-19 pandemic?

This paper mainly focuses on the important role of AI. How to fight the COVID-19 pandemic? Provides a comprehensive overview of AI Applications/methods to support, oppress, and oppress people Mitigate the critical impact of the pandemic, like natural Language Processing (NLP), Machine Learning (ML), deep learning. To beat this challenging battle, we believe That proper research in AI fully supports help People against this pandemic. AI overview Current Objectives Defined and Computer Vision an application that teaches computers to use big data-based models for analysis, prediction, explanation and pattern recognition [3]. In this work, Section II provides a literature review. Section III considers the application of AI. COVID-19 and Section IV provide conclusions.

II. LITERATURE REVIEW

COVID-19 has caused tremendous disruption impacting the lives of many people around the world. Causes and affects thousands of deaths a day Poor, Elderly, Individual Disabled people, youth, indigenous peoples. Science and technology have made great contributions Implementation in this unexpected and chaotic time. Artificial intelligence was used for analysis and research The main tools currently in use [4]. AI technology May improve treatment, results reported planning for COVID-19 patients, Evidence-based medical tools. It is understandable The modern healthcare system is overwhelmed. In order to reduce the burden on call centers, many organizations, including WHO and CDC, Add a virtual health assistant or "Chabot" to your own web page. These assistants can answer questions or provide Informative updates, look for symptoms and show where they are Go to screening or home quarantine. AI language Throughput may reduce emergency care visits in addition to reducing anxiety by providing Fact-based updates about viruses [3]. So it is Take an hour to research the importance of AI to fight AI in challenging battles and helping those who oppose them pandemic in today's world, AI has made many contributions. A way of our daily life with numerous

success stories. Also, during the epidemic of the new coronavirus infection (COVID-19) Pandemic, AI Played a Key Role in Combatting it. On the other hand, this article provided an introduction to AI. Applications used to combat coronavirus pandemic. From the Internet of Things (iot), text mining, medical imaging, biology and medicine, Data analytics, AI has always played an important role. We have also indicated the data sources relevant to the summaries. Of COVID-19 available for research purposes.

We Thoroughly discuss the quest for potential, Improving Artificial Intelligence Skills and Power Fighting the Pandemic in Research Directions. We Issues related to COVID-19 are drawing attention Outbreaks and the right AI applications and tools that can run them used to solve the problem. This paper Providing New Insights for Organizations and Researchers How AI helped improve the situation to further stop COVID-19 and the spread of COVID-19 outbreak. [3]. The first ever case of novel coronavirus (COVID19) was found in China's Hubei province December. 2019. Coronavirus cases spread in 215 countries around the world It affects each individual's life [14]. As an author The number of cases and deaths referred to in this paper [2] As in April 2020, there are no signs of a well-controlled situation and it is still clearly happening. 1,853,265 infected and 118,854 total deaths Coronavirus reported around the world. Motivation modern technology and artificial intelligence Wide range of applications, this paper mainly focuses on The Importance of Containing the Spread of the COVID-19 Pandemic and find solutions to prevent its severe consequences coronavirus disease. A review of AI by the author and big data, highlighting various applications of AI. And big data, and an overview of the issues and Having a problem and finally coming up with a possible solution Recommendations on how to effectively fight COVID-19 Pandemic. This paper is expected to provide researchers with How AI and Big Data were used to achieve this improve the state of the pandemic situation, and Work out solutions to control the situation [2]. The coronavirus disease spread rapidly around the world, the world leaves limited supplies for drug developers The time has come to identify drug candidates to fight the virus. Not Only in this situation, but in other cases such as the manufacture of pharmaceuticals Discovery is faster, cheaper and has artificial intelligence It has always proved itself. Despite signs of stagnation Until recently, drug discovery had new additions recent superpowers. Was not bitten Radioactive spider, struck by lightning or launched into space Radiance, but benefits from new upgrades to Super A set of tools that are artificial intelligence. Use Techniques such as machine learning and deep learning The drug development process can be artificially accelerated Intelligence used in existing or brand new drugs Link.

Utilization of technology and science such as deep learning Or big data, AI can help accelerate development Pharmaceutical process through identification of therapeutic candidates of a developed drug or newly branded compound. As Artificial intelligence is used in drug discovery For several years, in the number of companies, but still in the field AI is still pretty young. Europe's first drug candidate Identified using AI only previously entered clinical trials Year. From that moment on, AI was the biggest thing in Glamor A global pandemic, the Spanish flu, is sweeping the world. This field Also used by European players to identify themselves Potential cures for Covid-19 faster than ever[8]. In this paper, we presented a study based on the application of artificial intelligence to fight battles of the COVID-19 pandemic.

III. APPLYING AI TO COMBAT COVID-19 (NEW CORONA VIRUS INFECTIOUS DISEASE)

This section describes various applications of AI. Fight the Covid-19 Pandemic.

A) COVID-19 detection and recovery Even if no one knew the situation A data scientist created by the COVID-19 outbreak Discovered with the help of an artificial intelligence system pneumonia or any kind of illness not known in the country China[9]. As the disease spreads worldwide Problems with the use of various artifacts in science and technology Intelligence methods/tools available for Support and engagement with the medical community, as well as analysis Addressing all pandemic situations through prevention, Accelerate detection, recovery, response and research what is the diagram 1[9]. How AI Can Succeed discovered the biological basis of various diseases such as B. Cancers that predict treatment as well as COVID 19 They find some or several of these models. Provide treatment algorithms and guidelines for that Patients with COVID-19.

B) Diagnosis and Prevention of the Spread of Coronavirus Infection The focus was on disease diagnosis and prevention. Artificial intelligence that has been attracting attention since then Stanford University develops MYCIN for diagnosing blood infections [15]. These methods are rarely used Because of the medical practice, I showed that I was right, Disease treatment and diagnosis. As they were Incomplete separation from the medical record system, medical workflows weren't significantly better than those human diagnostician. Early prediction and treatment Finding solutions to overcome COVID-19 is critical outbreak. Reverse transcription polymerase chain Reactive (RT-PCR) detection techniques have recently been used An accurate method for identifying respiratory viruses. In the Efforts are being made to respond to the COVID-19 situation [16] and other alternatives made to improve technology [17]. For this we use AI applications Helps in diagnosing and preventing the spread of Corona viral disease. To detect and predict the spread of COVID-19, Algorithms to help identify patterns and anomalies Already working while a medical diagnosis is made Acceleration by

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image recognition system [9]. Use Smart devices and AI frameworks are one of them. The simplest and most cost-effective solution for identification COVID-19 [18], [19]. This is called mhealth or mobile. Health presented in [20]. These pieces benefit from being smart Devices are used every day for a variety of purposes. Many preprints on COVID-19 refer to man-made things Recently, the technology of medical image processing has been developed. Another coronavirus guideline emerges disease [21]-[30].

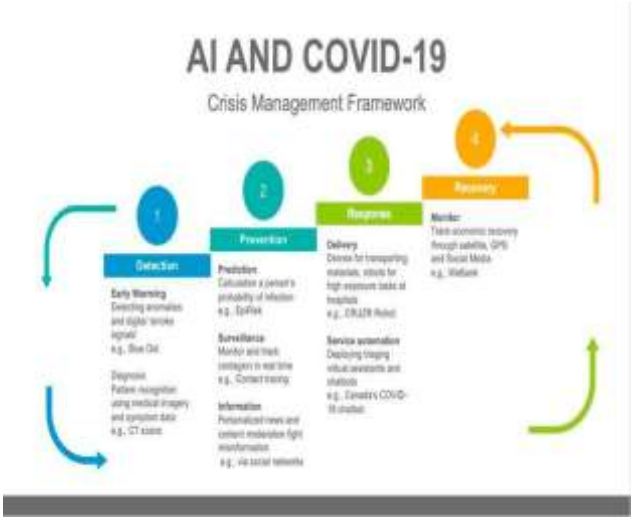

Fig 1. Examples of AI applications at different stages of the COVID-19 crisis

Because I limited the article to COVID-19 and AI Interested researchers are welcome to apply Studies in [31], [32] and for other applications Deep learning in medical image analysis. Through these works we You can see that it automatically detects infected corona For viruses, a computed tomography (CT) scan can be used. X-ray image as input for the DL model. Author of [33] tried to design a model for detecting coronaviruses A case known as a Deep Convolutional Neural Network (CNN). A Model Motivated by Infected Key Findings Coronavirus patients usually show chest abnormalities X-ray. Semi-autonomous robots and drones are used Hospital as an intermediate for pharmaceuticals Food delivery, disinfection/cleaning, nurse support, Implementation of physician and equipment shipments [9].

C) Healthcare workers Artificial Intelligence Based COVID-19 Diagnosis the software was developed by his two companies in China In order. A computed tomography (CT) scan was performed used to detect lung problems by trained software in Beijing-based startup Infervision. This software not only Used not only for diagnosis, but also for diagnosing lung problems Problems related to respiratory diseases like coronavirus. This technology is used by at least 35 Chinese. Hospitals that helped investigate 32,000 suspected cases [11]. Artificial intelligence system Chinese research institute Alibaba DAMO Academy Alibaba Accurately Detects His COVID-19 Probably 96%. 300-400 scans required for diagnosis Coronavirus experienced doctors usually have System manages 10-15 minutes in 20-30 minutes Seconds the company claims. Said to help check at least 30,000+ cases 26 Chinese hospitals [12] . Virus tests were normal in South Korea 2-3 months is just weeks, as AI reports Helped reduce the time required to develop test kits Based on the genetic makeup of the virus. Biotech Seegene used automated test development A system for developing and widely distributing test kits. Extensive testing is certainly important to control this Spreading the Pandemic and Overcoming Containment Measures in this country with 118 medical devices Tested with this device in over 230,000 facilities person [13].

D) Infodemiology and Infoveillance In today`s scenario, the most authentic information about the COVID- 19 pandemic can be easily found through the authorized sites and the health organizations channels like the World Health Organization (WHO), and also through the ministry of welfare and health in each country. However, social media sites like Facebook, Youtube and Instagram and electronic medium have also showed their value in spreading valuable facts related to corona virus disease. Further analysis has been performed to collect and process data properly as the information provided by the electronic media platform and the online platform is highly attainable and time-consuming .In order to improve the corona virus situation, the social network dynamics can be utilized by AI for better understanding, as AI being the powerful tool to deal with a vast amount of data .To demonstrate the methods of artificial intelligence during the corona virus situation, the work in[5] presented some realistic examples:

1) using the twitter and whatsapp data for tracking the behavior of the public,
2) from the Ebola outbreak, examining the healthseeking behavior,
3) reaction of the public towards the outbreak of Chikungunya.
Similar to the above outbreak, several studies has been performed from the infodemiology and infoveillance perspectives for the recent emergence of corona virus. In response to the COVID-19 pandemic, The author of [6] analyzed his two collected data. Baidu search engine and Visit Sina Weibo and track public behavior in this situation. Word count (LIWC) and linguistics research, A text analysis program was used for evaluation public feeling, public awareness and attention, Setting a daily Weibo gives you disinformation Index, i.e. Number of posts with relevant keywords coronavirus. Protection during the COVID-19 outbreak Action recommended by daily ant index By assessing Baidu's actions and intentions Propaganda. These

results show that rumors can quickly gather Disinformation can greatly reduce impact irrational behavior. AI tools like computer audition (CA), i.e. Speech and audio analysis by AI What contributed to the coronavirus situation has been reviewed [7]. Audio can be collected for further analysis From social media, news and promotional videos, Similar to text conversion. Some possible cases are Social distance monitoring etc. Are also introduced Ripple effect, risk assessment, recovery verification Treatment, diagnosis, sound and speech stimulation. There are some challenges to overcome Combat COVID-19 in line with computer potential Audition (CA), e.g. How to handle language and Audio Data Reliability and Synchronization Corona Collection Methods Virus patient data and how to describe the results obtained From the CA-based solution [2].

E) Image scan analysis and hospital staff reduction Workload Testing has become a decisive and important factor in combat Against COVID-19. The virus was successfully dealt with countries like Germany and South Korea Range of tests conducted in these countries. The most important Testing methods are time consuming and labor intensive Health officials are happy to increase it, but Number of tests run. Other forms of testing such as X-ray scanning is supported by AI methods. Lung Chest x-ray scan abnormalities can be done through the chest Screening and COVID-19 response by various AI programs Virus risk assessment much earlier than humans Radiologist [10].

IV. CONCLUSION

The outbreak of COVID-19 take the lives of many people and cause the death of thousands in a day. AI technology has more than just advantages Our routine with many victories, they have it too greatly help people in difficult situations to fight Oppose the fight against the COVID-19 outbreak. This paper contains So far, we represent a brief discussion of AI applications. Literature related to the fight against the COVID19 pandemic, control strategy. First, we held a briefing Introduce COVID-19 and artificial intelligence, then An application used to combat it. AI is used Understanding viruses and discovering new active ingredients On the other hand. The result is at the starting position, and For example, a large demand for AI research in the following areas: investigate The chemistry and genetics of coronaviruses and what they suggest Methods for rapid production of therapeutic and vaccine drugs. AI helps scientists fully understand viruses Due to its high computing power, Prove it with massive data.

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