During the COVID-19 Pandemic, Applications of Digital Imagery, and AI Technologies Uses

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Abstract

Throughout the last few decades, humans have been fascinated by technological innovation. To solve the universal healthcare challenges, tech companies provided a torrent of innovation. The new coronavirus has established a significant foothold on the world, which is being combated via digital interventions across infected geographical borders and territories. COVID-19 reactions can be coordinated using digital technology in a cascade that spans from the healthcare care facility to the pending viral epicenter's exterior. As evidence, there are incidents of medical robotics, surveillance drones, as well as the internet - of - things. COVID-19 diagnostics are based on PCR tests and medical imaging. At a clinical accuracy of percent, computed tomography assisted in correcting the accuracy variance of PCR testing. COVID-19 reactions can be independent thanks to artificial intelligence. When properly sourced, technology may be a never-ending system of invention and potential. Scientists can use technology to address global issues, pushing the boundaries of concrete possibility. Digital interventions have improved COVID-19 responses, emphasised the need of medical imaging throughout the outbreak, and exposed healthcare personnel to the possibility of contactless treatment.

Keywords

AI, Covid-19, Medical, PCR, Health care

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1. Introduction

Pandemics have been a problem for humanity since the dawn of time. Historians have documented the coexistence of pathogenic infestations and humans. Specifically, the viral viruses that have made infectious plague a global problem over the last two decades. From the walls surrounding ancient communities to the high-rise buildings of modern times, these transmittable plagues mirrored the continuation of human civilisation. Early global pandemics occurred during the fourteenth century, when the Bubonic Plague, often known as the Black Death, was prevalent. The finding of the Black Death in maiden commerce ships landing at European ports is told in ancient anecdotes. The ships known as the „plague ships" were responsible for spreading the plague across mediaeval Europe [1].

The Black Death was portrayed through the revolution of mediaeval art and science as an evolutionary landmark in the lineage of worldwide pandemics. The horror of the Black Death, which took millions of lives over several years, was reflected in the artisan collections. Following World War I, the year saw the return of the Black Death, this time in the form of something like the Spanish flu. The H1N1 influenza virus was blamed by medical anthropologists for the Spanish flu's ecology. Following up on the investigation, it was discovered that the outbreak originated in the French city of Étaples. According to epidemiological data, the Spanish flu caused approximately half a billion infections and a million deaths [2].

During their aforementioned period of discovery and early case reports, severe acute respiratory and Black Death airborne infections quickly spread over the world. Frontline responders resurrected the efforts of centenary plague doctors fighting the Black Death's invasion. Long black coats, black top hats, and featherless masks concealing aromatic plants were worn by plague doctors to cover the stink of decomposing bodies spread around infected districts. In the present day, virologists are working to decode the pathophysiology of COVID-19 [3].

COVID-19's inconspicuous genesis was one of the virus's disturbances. SARS-CoV-2 is a single-stranded RNA beta coronavirus with four major proteinaceous components: a spike, a transmembrane, an envelope, and nucleo-capsid proteins, according to the genetic layer. Surface proteins are spike proteins [4].

COVID-19 can cause a number of respiratory complications, according to the WHO. Malaise, muscle aches, fever, a

dry cough, and shortness of breath were some of the most common symptoms. COVID-19 consequences included ARDS, pneumonia, multi-organ failure, and death. Obesity, prolonged smoking, and chronic heart disease are all comorbidities with infection. COVID-19 revealed a cross-species transmission pattern, according to studies. This genetic activity was identified in the Hunan Fisheries Wholesale market in Wuhan during the outbreak's early stages. The virus transmits from bats to pangolins to humans via intermediate hosts. As a result, transmission from person to person is made easier. Small respiratory droplets and aerosols can spread illnesses from one person to another [5].

2. Conclusion

Chest radiography and computed tomography are the gold standards in diagnosing suspected instances of COVID-19. Magnetic resonance imaging, point-of-care sonography, and positron emission tomography can all be repurposed by radiologists to visualise the disease's subtle and long-term aspects. Medical imaging professionals are divided on artificial intelligence. Artificial intelligence opponents are motivated by the requirements and early research that qualify new AI platforms for generalisation and public usage. Artificial intelligence agents necessitate a rigorous programming, investment, training, and research procedure to prove the platform's efficacy and application logic, with the exception of the platform's direction and future use, which is unpredictable.

3. References

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