keypoints

unfamiliar words

have emotional impact

thoughts

ABSTRACT

never done

COVID-19 outbreak has put the whole world in an unprecedented difficult situation bringing life around the world to a frightening halt and claiming thousands of lives. Due to COVID-19's spread in 212 countries and territories and increasing numbers of infected cases and death tolls mounting to 5,212,172 and 334,915 (as of May 22 2020), it remains a real threat to the public health system. This paper renders a response to combat the virus through Artificial Intelligence (AI). Some Deep Learning (DL) methods have been illustrated to reach this goal, including Generative Adversarial Networks (GANs), Extreme Learning Machine (ELM), and Long /Short Term Memory (LSTM). It delineates an integrated bioinformatics approach in which different aspects of information from a continuum of structured and unstructured data sources are put together to form the user-friendly platforms for physicians and researchers. The main advantage of these AI-based platforms is to accelerate the process of diagnosis and treatment of the COVID-19 disease. The most recent related publications and medical reports were investigated with the purpose of choosing inputs and targets of the network that could facilitate reaching a reliable Artificial Neural Network-based tool for challenges associated with COVID-19. Furthermore, there are some specific inputs for each platform, including various forms of the data, such as clinical data and medical imaging which can improve the performance of the introduced approaches toward the best responses in practical applications.

year has passed, variants have appeared. After the case cooled down, it doesn't feel like it exists anymore.

The year 2020 Feels like a Fever dream. It was hellish. Frightening

analyzing complex biological data

describe
continuity/sequence

It amazes me how much tech has improved and helped the contemporary world.

What would happen on today's generation if Modern technology didn't exist?

Maybe there's a good chance on seeing them again.

plague doctor

INTRODUCTION

The nzovel Coronavirus designated SARS-CoV-2 appeared in December 2019 to initiate a pandemic of respiratory illness known as COVID-19 which proved itself as a tricky illness that can emerge in various forms and levels of severity ranging from mild to severe with the risk of organ failure and death. With the progress of the pandemic and rising number of the confirmed cases and patients who experience severe respiratory failure and cardiovascular complications, there are solid reasons to be tremendously concerned about the consequences of this viral infection [5]. Determining appropriate approaches to reach solutions for the COVID-19 related problems have received a great deal of attention. However, another huge problem that researchers and decision-makers have to deal with is the ever-increasing volume of the date, known as big data, that challenges them in the process of fighting against the virus. This justifies how and to what extent Artificial Intelligence (AI) could be crucial in developing and upgrading health care systems on a global scale [6]. AI has been recently attracted increasing research efforts towards solving the complex issues in a number of fields, including engineering [7]–[9], medicine [10]–[13], economy [14], and psychology [15]. Hence, a critical situation like this necessitates mobilization and saving medical, logistic and human resources and AI can not only facilitate that but can save time in a period when even one hour of the time save could end in saving lives in all locations where Coronavirus is claiming lives. With the recent popularity of AI application in clinical contexts, it can play an important role in reducing the number of undesired deletions as well as improving the productivity and efficiency in studies where large samples are involved [16], and higher degrees of accuracy in prediction and diagnosis are intended [17]. Utilizing big data can also facilitate viral activity modeling studies in any country. The analyses of results enable health care policymakers to prepare their country against the outbreak of the disease and make well-informed decisions [18]. Nevertheless, while treatment strategies, crisis management, optimization and improvement diagnosis methods, such as medical imaging and image processing techniques could take benefit from AI which is potentially capable of helping medical methods, it has not been desirably employed and well-appropriated to serve health-care systems in their fights against COVID-19. For instance, one area that can take special advantage of AI's useful input is image-based medical diagnosis through which fast and accurate diagnosis of COVID-19 can take place and save lives [19]. Appropriating AI techniques to deal with COVID-19 related issues can fill the void between AI-based methods and medical approaches and treatments. AI specialists' use of AI platforms can help in making connections between various parameters and speed up the processes to obtain optimum results. In this paper, our team relies on the findings of the most recent research

Does COVID-19 affect our cardiovascular system?

What do they mean by big data? Which data are they referring to?

focusing on COVID-19 and its various challenges to generalize and suggest a variety of strategies relevant but not limited to high-risk groups, epidemiology, radiology and etc. As the paper unfolds, it explores and discusses the potentials of AI approaches to overcome COVID-19 related challenges in section 2. Section 3 of the paper includes a presentation of ANN-based strategies that can be employed for big data analysis. Section 4 presents the discussion, and Section 5 o?ers the conclusion.