

Peer Review File

Article information: <https://dx.doi.org/10.21037/jphe-23-139>

Reviewer A

Comment 1: This manuscript describes how AI can help in pandemics like COVID-19. There are many similar manuscripts in PubMed, so the authors should put some work in describing what is new in this paper. plus do a thorough check on the references and spelling.

General comments:

- I am missing the context of this study in the larger picture. There are many similar reviews out there. What is new in this manuscript compared to others?

e.g.:

<https://onlinelibrary.wiley.com/doi/full/10.1002/rmv.2205>

<https://www.sciencedirect.com/science/article/pii/S1871402120300771>

<https://www.sciencedirect.com/science/article/pii/S0960077920304562>

(but there are many more)

Perhaps you could focus more on the most recent (2023) developments.

- It is not common to have a summary at the end. Please follow the journal's guidelines at <https://jphe.amegroups.org/pages/view/guidelines-for-authors#content-3-4>

Authors reply:

Thank you for your inputs. We have readdressed the entire manuscript and as suggested have focused primarily on 2023 developments. Therefore, though literature is abundant on AI – however recent compilation of data are limited. Also, the application of AI has progressed enabling diagnostic access to low-income countries, evaluation of vaccine hesitancy and even analyze the cognitive bias of practitioners thereby widening its application. Further, the ongoing pandemic and its mutations have required us to update the scientific advancements. We sincerely thank for the opportunity to revise and present the recent advancements.

Changes in the manuscript: see Page 2- Page 14 (whole manuscript)

Comment 2:Introduction:

- The Turing test is not "the ability to attain human standards of activity in intellectual errands", it is a test to study that ability.

Authors reply- Thank you for the input. We have excluded the same for the manuscript.

Comment 3:

- The paper contains an unnecessary large number of references. For example, on line 63, 8 references are cited at once, where one should be enough. The same for line 64 with 5 references. Please check references in the complete paper.

Authors reply: Thank you for your input. We have revised the entire references based on the revisions of the manuscript. The count of references is restricted to 47 with majority of them being latest references- 2023.

Changes in the manuscript: see Page 11 to Page 14

Comment 4

- You state the first-ever artificial intelligence program was created in 1955, but then state that the first artificial neural network was developed in 1951. Isn't that an AI program as well? It would also be good to put developments in chronological order.

Authors reply: Thank you for your input. We have excluded the same for the manuscript as recent developments alone are narrated as suggested

Comment 5: Spelling/grammar:

- Please check the complete paper for errors.

E.g.:

- line 182: pre requisite -> prerequisite

Authors reply: We have excluded the former terminologies

- line 299: lineage -> lineages

Authors reply: We have excluded the former terminologies

- line 306: GISAD -> GISAID

Authors reply: We have revised the terminologies- see page5 line118

- et al -> et al.

Authors reply: We have revised accordingly- see page7 to 10 (Table 1)

Reviewer B

The paper is a review article focusing on using artificial intelligence to combat COVID-19 and the potential lessons that could help fight future pandemics.

The key lessons from the use of artificial intelligence in combating COVID-19 are:

Early outbreak detection: AI can be used for the early detection and prediction of outbreaks, allowing for timely intervention and prevention.

Diagnosis and screening: AI algorithms can aid in the rapid and accurate diagnosis of COVID-19 by analyzing imaging reports, thermal face scanners, and voice detection platforms.

Treatment and prognosis: AI can assist in predicting patient outcomes and survival rates, helping healthcare professionals make informed decisions about treatment strategies.

Drug discovery: AI can be utilized in drug discovery and repurposing efforts, accelerating the development of potential treatments for COVID-19.

Tracking and monitoring: AI-powered systems can track the spread of the virus, monitor infection

rates, and provide real-time data for effective decision-making.

Automation and efficiency: AI can automate various processes, such as CT scan image analysis and critical point detection, improving efficiency and reducing unnecessary radiation exposure.

Collaboration and data sharing: AI enables the sharing and analysis of large amounts of data, facilitating collaboration between researchers and healthcare professionals worldwide.

Future preparedness: The use of AI in combating COVID-19 highlights the importance of investing in advanced technologies and infrastructure to better prepare for future pandemics.

The paper contributes to the literature by presenting important ideas related to using IA as an additional tool essential in fighting pandemics.

Comment 6: My main comment to improve the paper is that it needed an analytical framework to discuss the results.

How were the papers included in the analysis chosen? Did you search Scopus, Web of Science, or PubMed to search for these papers? Which were selected and which were excluded?

How did you find the papers that entered the sample? How did you make your search?

Explain in more detail which papers entered the literature review and any limitations of the current research strategy.

Authors reply: Thank you for your inputs. We have included the search strategy accordingly – see page3- line 63-72