

Artificial Intelligence and its Application Amidst and after Global Pandemic (COVID-19)

Eugene Ivan Richards

School of Computer Science and Engineering, Galgotias University
Plot No. 2, Yamuna Expressway, Sector 17A, Greater Noida, Uttar Pradesh-201310, India

Abstract: *Artificial Intelligence is a powerful tool that can change the world itself with the capabilities it possesses. The Global Pandemic Shook the whole world upside down as no one was expecting it to have such an impact on Finances and Public health. While the country of origin has finally been able to recover those losses and started building once again, there are many countries like India yet to face the Atrocities of the Invisible Foe. There are many tools that can help us fight Covid-19 but Artificial Intelligence seems like our most Colossal Ally in this Battle.*

Keywords: Artificial Intelligence, COVID-19.

1. Evolution of AI

In paper [1], new plagiarism technique has been proposed based on K-NN method. This method clusters the string and matches words with neighbors. A counter variable is used to the count number of the string matched to the compared set of files. Initially, the texts and characters of the submitted file are cross-checked with the prevailing database of character and word combination of the files. The set of words which are matched are stored in an array and later displayed as copied words in the output. This technique finds the frequency of every matched copied combination of characters in the file. It also calculates the percentage of

Matched copied words; later it was also used to detect spun words where a new similar word was used to bypass the plagiarism detection would also be detected and added to the percentage of the mass.

In paper [2] artificial intelligence based tool in which signature verification system has been introduced. The first thing is to get an image of the actual signature. Then get 10 people to forge it and compare and train the artificial neural network accordingly. Features are chosen from the image like stroke layering, color dominance, histogram, moment invariants, GLCM. The implied features from the image are then used to make the artificial neural network learn and test. The proposed system saves a lot of time as compared to existing verification method.

In paper [3], the concept of natural language processing has been studied. Natural language processing is done to analyze, apprehend the human language by computers which only understand 1's and 0's. The process of NLP is Structural analysis, syntactic analysis, semantic analysis, discourse integration and pragmatics analysis.

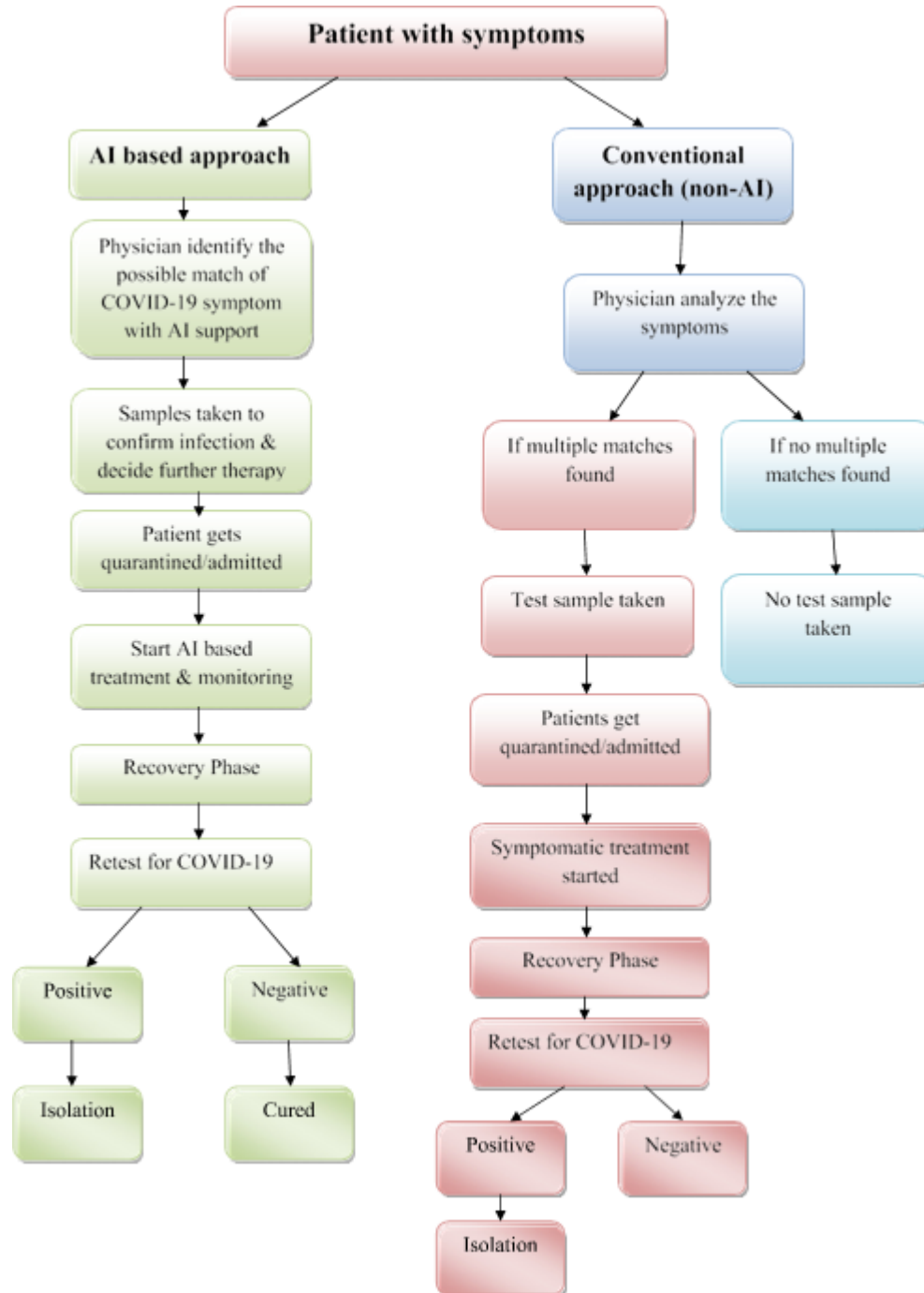
This Tool will also help us fight Covid-19 as stated in paper [4], how artificial Intelligence helped in forecasting of the invisible foe and its precedence in the later year.

2. Applications of Artificial Intelligence amidst Covid-19

- 1) In Paper [6]. AI helps in the prediction of symptoms which are irregular to common fever and cold. It helps to provide faster decision making, which is cost-effective. It helps develop a new diagnostic and management system for COVID 19 cases, using algorithms. It is helpful in the diagnosis of the infected cases with the help of medical imaging technologies like Computed tomography (CT), Magnetic resonance imaging (MRI) scan of human body parts. As shown in the figure below.
- 2) Also, a neural network may be built to identify the visual aspects of this disorder and this will help to better track and manage the individuals affected. It has the potential to provide day-to-day patient feedback as well as offering options for COVID-19 pandemic follow-up.
- 3) AI can help to assess infection rates by defining this virus clusters and 'hot spots' and are able to successfully track and monitor individuals' contacts. The future course of this disease and its likely reappearance can be predicted
- 4) Amidst this Pandemic crisis, many telecom operators in India are shifting to new approaches and enhancing their Chat bots and automated operations. As stated in [7]. This reduces workload and the amount of normal public interaction stopping spread of the virus.
- 5) Many Regression models have come in limelight which when fed data can analyze the spread pattern of different countries and predict the nature of spread in India. As stated in paper [8]. It also predicts the projected death rate and can help the government to take steps accordingly.
- 6) *Prevention At public places:*
Disinfectant Powered by AI can prevent the spread of infection and our invisible foe by predicting the type of Impurity and particles present on a person by neural

network learning. As stated in [9], an IIT backed firm has

already started developing such disinfectant chambers.



7) Making of Drugs for Covid-19:

AI is used for drug research by analyzing the available data on COVID-19. It is useful for drug delivery design and development. This technology is used in speeding up drug testing in real-time, where standard testing consumes a lot of time and hence helps to accelerate this process significantly, which may not be possible by a human [5]. It can help to identify useful drugs for the treatment of COVID-19 patients. It has become a magnanimous tool for diagnostic test designs and vaccination development [10]. AI helps in developing vaccines and treatments at a faster

rate than usual and is also helpful for clinical trials during the development of the vaccine.

3. Conclusion

Artificial Intelligence is an upcoming and useful tool for identifying early coronavirus infections and also helps to monitor the infected patient's condition. By developing useful algorithms it can significantly improve the consistency of

treatment and decision making. AI isn't just helpful in COVID-19 treatment

But also for a careful control of their health. It can track the COVID-19 crisis at various scales, including medical, molecular, and epidemiological applications. Facilitating work on this virus using the study of the available data is also useful. Even the reduced workload and careful use of automation helps prevent spread. AI can help in the development of appropriate treatment regimens, preventive strategies, drug development and vaccine development.

References

- [1] MausamiSahu, "Plagiarism Detection Using Artificial Intelligence" International Journal of Scientific & Technology Research, Volume 5, Issue 04, April2016
- [2] Ashish, A.Dongare, Prof.R.D. Ghongade, "Artificial Intelligence Based Bank Cheque Signature Verification System" International Research Journal of Engineering and Technology (IRJET) Volume 03, Issue 01,Jan-2016
- [3] UnnatiDhavare, Prof. UmeshKulkarni, "Natural language processing using artificial intelligence" International Journal of Emerging Trends & Technology in Computer Science (IJETTCS), Volume 4, Issue 2, March- April 2015
- [4] Hu Z, Ge Q, Jin L, Xiong M. Artificial intelligence forecasting of COVID-19 in China. arXiv preprint arXiv:2002.07112. 2020 Feb 17
- [5] Ai T, Yang Z, Hou H, Zhan C, Chen C, Lv W, Tao Q, Sun Z, Xia L. Correlation of chest CT and RT-PCR testing in coronavirus disease 2019 (COVID-19) in China: A report of 1014 cases. Radiology 2020. <https://doi.org/10.1148/radiol.2020200642>.
- [6] Artificial Intelligence (AI) applications for COVID-19 pandemicRajuVaishya, Mohd Javaid, Ibrahim Haleem Khan, AbidHaleem
- [7] <https://economictimes.indiatimes.com/industry/telecom/telecom-news/airtel-voda-idea-jio-change-their-operating-models/articleshow/76202850.cms?from=mdr>
- [8] Linear Regression Analysis to predict the number of deaths in India due to SARS-CoV-2 at 6 weeks from day 0 (100 cases - March 14th 2020) Panel: SamitGhosala, SumitSengupt, MilanMajumder, BinayakSinhad
- [9] https://www.business-standard.com/article/current-affairs/iit-kanpur-backed-firm-to-launch-ai-powered-covid-19-disinfectant-chamber-120051600727_1.html
- [10] Sohrabi C, Alsafi Z, O'Neill N, Khan M, Kerwan A, Al-Jabir A, Iosifidis C, Agha R. World Health Organization declares global emergency: a review of the 2019 novel coronavirus (COVID-19). Int J Surg 2020 Feb 26.