



HOW CAN DATA ANALYTICS AND ARTIFICIAL INTELLIGENCE TECHNOLOGIES HELP PREDICT AND CONTROL FUTURE PANDEMICS AND EPIDEMICS?

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Abstract

We have seen many pandemic and epidemic bursts over the past years, the rate of which has gradually been increasing. This trend is unlikely to discontinue, unfortunately, and the intensity of these outbreaks has also been anticipated to rise. An example of this would be the outbreak of the COVID-19 virus, which caused a major uproar and large-scale panic over the high death number and damage to the economy. It has become a necessity to learn how we can predict and control any future pandemics and epidemics. This paper explores the way data analytics can help with that while carefully examining the case of the COVID-19 and using it as an example to help deduce the ways we can further our technology so as to ensure minimum damage in the future.

Keywords: Pandemic, Pathogenic outbreak, Data Science, Artificial Intelligence.

INTRODUCTION

The recent outbreak of the COVID-19 pandemic has left us with the realisation of just how unprepared we are in the face of a pathogenic outbreak as severe as this. Unfortunately, statistics have proven that the COVID-19 is not going to be our last encounter with these ever-evolving, mutating, infectious pathogens. Especially as the frequency of pathogenic outbreaks over the decades, along with their intensity, is increasing dramatically.

First declared as a global crisis on 30th January, 2020 by the WHO (World Health Organisation), the COVID-19 virus has been the cause of mass-panic and mass-destruction. It has taken the lives of around 409,000 people and has infected more than 190,000,000. The economies of various countries all over the world also took a toll. Many lost their jobs and any source of income.

We need to find a suitable enough method to enable us to predict and control the outbreak of these pathogens. Data analytics and Artificial Intelligence technologies are a very suitable method for the same. This research paper explores how these technologies could be employed so the damage that the COVID-19 virus had caused wouldn't repeat itself.

Theory



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In this section, the summary of the theoretical basis should be given, if any. Here, you can cite handbooks or classical papers in the field, and use equations, if necessary. Do not use equations which are common knowledge.

Experimental

Describe your experiments so that they could be reproduced by another researcher. Do not describe in detail the methods commonly used or already published, cite them instead. Emphasize the critical steps.

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[Kindly note the above header will change as per the research topic selected. Till Introduction, Learners are requested to follow the same format]

RESULT

In this section, your results and their interpretation should be given. It should be a separate section.

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DISCUSSION

In this Section, discuss about your results obtained and explain it in detail with the help of statistical tools (like bar graph, pie chart and etc.) [For more details refer the Annexuresection]

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CONCLUSION

In Conclusion, you should not repeat sentences from the Abstract, Introduction, and the Results sections. It should summarize the most important results, their novelty advantages, and limitations. Here you may also mention planned future work and/or recommendations to others.

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Acknowledgements

Acknowledgments of people, funds, etc. should be placed here.

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REFERENCES

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. For the format of Reference writing, kindly refer to the Annexure I attached.

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