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COVID-19 Spatio-Temporal Evolution Using Deep Learning at a European Level

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Abstract

COVID-19 evolution imposes significant challenges for the European healthcare system. The heterogeneous spread of the pandemic within EU regions elicited a wide range of policies, such as school closure, transport restrictions, etc. However, the implementation of these interventions is not accompanied by the implementation of quantitative methods, which would indicate their effectiveness. As a result, the efficacy of such policies on reducing the spread of the virus varies significantly. This paper investigates the effectiveness of using deep learning paradigms to accurately model the spread of COVID-19. The deep learning approaches proposed in this paper are able to effectively map the temporal evolution of a COVID-19 outbreak, while simultaneously taking into account policy interventions directly into the modelling process. Thus, our approach facilitates data-driven decision making by utilizing previous knowledge to train models that predict not only the spread of COVID-19, but also the effect of specific policy measures on minimizing this spread. Global models at the EU level are proposed, which can be successfully applied at the national level. These models use various inputs in order to successfully model the spatio-temporal variability of the phenomenon and obtain generalization abilities. The proposed models are compared against the traditional epidemiological and Autoregressive Integrated Moving Average (ARIMA) models. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

COVID-19 policies; COVID-19 reported cases; data-driven pandemic interventions; deep learning; time-series prediction

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1 Ciotti, M., Angeletti, S., Minieri, M., Giovannetti, M., Benvenuto, D., Pascarella, S., Sagnelli, C., (...), Ciccozzi, M.

COVID-19 Outbreak: An Overview

(2020) *Chemotherapy*, 64 (5-6), pp. 215-223. Cited 211 times.
www.karger.com/journals/che/che_jh.htm
doi: 10.1159/000507423

View at Publisher

SciVal Topics
Metrics
Funding details

2 Organization, W.H.
Events as They Happen. Cited 8 times.
(accessed on 22 March 2022)
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen

3 Cucinotta, D., Vanelli, M.

WHO declares COVID-19 a pandemic

(2020) *Acta Biomedica*, 91 (1), pp. 157-160. Cited 3912 times.
https://www.mattioli1885journals.com/index.php/actabiomedica/article/download/9397/8659
doi: 10.23750/abm.v91i1.9397

View at Publisher

SciVal Topics
Metrics
Funding details

4 Organization, W.H.
Timeline: WHO's COVID-19 Response. Cited 124 times.
(accessed on 22 March 2022)
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline

5 Fuller, J.A., Hakim, A., Victory, K.R., Date, K., Lynch, M., Dahl, B., Henao, O.

Mitigation policies and COVID-19–associated mortality — 37 European Countries, January 23–June 30, 2020

(2021) *Morbidity and Mortality Weekly Report*, 70 (2), pp. 58-62. Cited 39 times.
http://www.cdc.gov/mmwr/volumes/70/wr/mm7002e4.htm?s_cid=mm7002e4_w
doi: 10.15585/MMWR.MM7002E4

View at Publisher

SciVal Topics
Metrics
Funding details

6 Alzu'Bi, S., Aqel, D., Mughaid, A.

Recent intelligent Approaches for Managing and Optimizing smart Blood Donation process

(2021) *2021 International Conference on Information Technology, ICIT 2021 - Proceedings*, art. no. 9491125, pp. 679-684. Cited 10 times.
http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9491111
ISBN: 978-166542870-5
doi: 10.1109/ICIT52682.2021.9491125

View at Publisher

SciVal Topics
Metrics
Funding details

7 Bakalos, N., Kaselimi, M., Doulamis, A., Doulamis, N.

Bioinformatics systems for monitoring and mitigating epidemics: The STAMINA Paradigm

(2021) *ACM International Conference Proceeding Series*, pp. 426-430.
http://portal.acm.org.mapua.idm.oclc.org/
ISBN: 978-145038792-7
doi: 10.1145/3453892.3461324

View at Publisher

SciVal Topics
Metrics
Funding details

8 Voulodimos, A., Protopapadakis, E., Katsamenis, I., Doulamis, A., Doulamis, N.

Deep learning models for COVID-19 infected area segmentation in CT images

(2021) *ACM International Conference Proceeding Series*, pp. 404-411. Cited 37 times.
http://portal.acm.org.mapua.idm.oclc.org/
ISBN: 978-145038792-7
doi: 10.1145/3453892.3461322

View at Publisher

9 Kibria, H.B., Jyoti, O., Matin, A.

Forecasting the spread of the third wave of COVID-19 pandemic using time series analysis in Bangladesh

(2022) *Informatics in Medicine Unlocked*, 28, art. no. 100815. Cited 8 times.
http://www.journals.elsevier.com/informatics-in-medicine-unlocked
doi: 10.1016/j.imu.2021.100815

View at Publisher

10 Maaliw, R.R., Ballera, M.A., Mabunga, Z.P., Mahusay, A.T., Dejelo, D.A., Seno, M.P.

An Ensemble Machine Learning Approach for Time Series Forecasting of COVID-19 Cases

(2021) *2021 IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference, IEMCON 2021*, pp. 633-640. Cited 13 times.
http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9623060
ISBN: 978-166540066-4
doi: 10.1109/IEMCON53756.2021.9623074

View at Publisher

11 Tandon, H., Ranjan, P., Chakraborty, T., Suhag, V.
(2020) *Coronavirus (COVID-19): ARIMA based time-series analysis to forecast near future*. Cited 52 times.
arXiv arXiv:2004.07859

12 Aditya Satrio, C.B., Darmawan, W., Nadia, B.U., Hanafiah, N.

Time series analysis and forecasting of coronavirus disease in Indonesia using ARIMA model and PROPHET

(2021) *Procedia Computer Science*, 179, pp. 524-532. Cited 76 times.
http://www.sciencedirect.com.mapua.idm.oclc.org/science/journal/18770509
doi: 10.1016/j.procs.2021.01.036

View at Publisher

13 Jain, A., Sukhdeve, T., Gadia, H., Sahu, S.P., Verma, S.

COVID19 Prediction using Time Series Analysis

(2021) *Proceedings - International Conference on Artificial Intelligence and Smart Systems, ICAIS 2021*, art. no. 9395877, pp. 1599-1606. Cited 13 times.
http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9395728
ISBN: 978-172819537-7
doi: 10.1109/ICAIS50930.2021.9395877

View at Publisher

14 Verma, H., Mandal, S., Gupta, A.

Temporal deep learning architecture for prediction of COVID-19 cases in India (Open Access)

(2022) *Expert Systems with Applications*, 195, art. no. 116611. Cited 18 times.
https://www.journals.elsevier.com/expert-systems-with-applications
doi: 10.1016/j.eswa.2022.116611

View at Publisher

15 Shastri, S., Singh, K., Kumar, S., Kour, P., Mansotra, V.