

13 documents have cited:

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

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

(2021) 2021 IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference, IEMCON 2021, , pp. 633-640.

Search within results... 

 Analyze search results

Show all abstracts Sort on: Date (newest)

Refine results

Limit to Exclude

Open Access

- All Open Access (4) >
- Gold (4) >
- Green (2) >

Learn more

Year

- 2023 (2) >
- 2022 (9) >
- 2021 (2) >

Author name

- Maaliw, R.R. (7) >
- Lagman, A.C. (4) >
- Alon, A.S. (3) >
- Garcia, M.B. (3) >
- Mabunga, Z.P. (2) >

View more

Subject area

- Computer Science (12) >
- Engineering (8) >
- Decision Sciences (4) >
- Medicine (3) >
- Physics and Astronomy (3) >

View more

Document type

Publication stage

Source title

Keyword

Affiliation

Funding sponsor

Country/territory

Source type

Language

Limit to Exclude

	Document title	Authors	Year	Source	Cited by
<input type="checkbox"/> 1	Machine Learning and Prediction of Infectious Diseases: A Systematic Review	Santangelo, O.E., Gentile, V., Pizzo, S., Giordano, D., Cedrone, F.	2023	Machine Learning and Knowledge Extraction 5(1), pp. 175-198	1
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 2	A Survey on the role of ML and AI in fighting Covid-19	Malhotra, D., Sodhi, G.K.	2023	2023 International Conference on Advancement in Computation and Computer Technologies, InCACCT 2023 pp. 27-32	0
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 3	Long-Term Water Quality Prediction Using Integrated Water Quality Indices and Advanced Deep Learning Models: A Case Study of Chaohu Lake, China, 2019–2022	Yao, S., Zhang, Y., Wang, P., (...), Wang, Y., Zhang, Y.	2022	Applied Sciences (Switzerland) 12(22),11329	1
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 4	A Novel Approach on Deep Learning—Based Decision Support System Applying Multiple Output LSTM-Autoencoder: Focusing on Identifying Variations by PHSMs' Effect over COVID-19 Pandemic	Jang, Y.-J., Kim, M.-S., Lee, C.-H., (...), Lee, S.-H., Sung, T.-E.	2022	International Journal of Environmental Research and Public Health 19(11),6763	1
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 5	COVID-19 Spatio-Temporal Evolution Using Deep Learning at a European Level	Kavouras, I., Kaselimi, M., Protopapadakis, E., (...), Doulamis, N., Doulamis, A.	2022	Sensors 22(10),3658	4
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 6	Population Estimation Using Wi-Fi's Received Signal Strength Indicator Based on Artificial Neural Network	Bermudez, B.A.R., Cruz, C.R., Ramos, J.D., (...), Maaliw, R.R., Ballado, A.H.	2022	Proceeding - ELTICOM 2022: 6th International Conference on Electrical, Telecommunication and Computer Engineering 2022 pp. 160-165	0
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 7	A Multistage Transfer Learning Approach for Acute Lymphoblastic Leukemia Classification	Maaliw, R.R., Alon, A.S., Lagman, A.C., (...), Fernando-Raguro, M.C., Hernandez, A.A.	2022	2022 IEEE 13th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference, UEMCON 2022 pp. 488-495	7
	View abstract View at Publisher Related documents				
<input type="checkbox"/> 8	Cataract Detection and Grading Using Ensemble Neural Networks and Transfer Learning	Maaliw, R.R., Alon, A.S., Lagman, A.C., (...), Tan, J.B., Maano, R.A.	2022	2022 IEEE 13th Annual Information Technology, Electronics and Mobile Communication Conference, IEMCON 2022	8
	View abstract View at Publisher Related documents				


[◀ Back to results](#) | [◀ Previous](#) 5 of 13 [Next ▶](#)
[Download](#) [Print](#) [Save to PDF](#) [Add to List](#) [Create bibliography](#)
Sensors • Open Access • Volume 22, Issue 10 • May-2 2022 • Article number 3658

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

Kavouras, Ioannis ; Kaselimi, Maria ;
 Protopapadakis, Eftychios ; Bakalos, Nikolaos ;
 Doulamis, Nikolaos ; Doulamis, Anastasios
[Save all to author list](#)

^a School of Rural, Surveying and Geoinformatics Engineering, National Technical University of Athens, Athens, 15772, Greece

4 72th percentile
Citations in Scopus

1.52
FWCI

11
Views count

[View all metrics >](#)

[View PDF](#) [Full text options ▾](#) [Export ▾](#)

Cited by 4 documents

Evidence-driven spatiotemporal COVID-19 hospitalization prediction with Ising dynamics

Gao, J. , Heintz, J. , Mack, C. (2023) *Nature Communications*

Policy gradient empowered LSTM with dynamic skips for irregular time series data

Weerakody, P.B. , Wong, K.W. , Wang, G. (2023) *Applied Soft Computing*

Spatio-temporal variation of Covid-19 health outcomes in India using deep learning based models

Middya, A.I. , Roy, S. (2022) *Technological Forecasting and Social Change*

[View all 4 citing documents](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)

Abstract

Author keywords

Indexed keywords

SciVal Topics

Metrics

Funding details

SciVal topics

Metrics

Funding details

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

Indexed keywords

SciVal Topics

Metrics

Funding details

Related documents

Forecasting of Novel Corona Cases in India Using LSTM-Based Recurrent Neural Networks

Tripathi, S.K. , Mishra, S. , Purohit, S.D. (2023) *Lecture Notes in Networks and Systems*

Convolutional bi-directional long-short-term-memory based model to forecast COVID-19 in Algeria

Shastri, S. , Singh, K. , Sharma, A. (2022) *Computational Intelligence in Healthcare Applications*

VOC-DL: Deep learning prediction model for COVID-19 based on VOC virus variants

Liao, Z. , Song, Y. , Ren, S. (2022) *Computer Methods and Programs in Biomedicine*

[View all related documents based on references](#)

Find more related documents in Scopus based on:

[Authors >](#) [Keywords >](#)

SciVal topics

Metrics

All [Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)

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

COVID-19 Outbreak: An Overview

(2020) *Cancer Therapy*, 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

- 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

- 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

- 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

- 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](#)

Scival topics

Metrics

Funding details

- 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](#)

Scival topics

Metrics

Funding details

- 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](#)

Scival topics

Metrics

Funding details

- 13 Jain, A., Sukhdev, T., Gadia, H., Sahu, S.P., Verma, S.
COVID19 Prediction using Time Series Analysis
(2021) *Proceedings - International Conference on Artificial Intelligence and Smart Systems, IC AIS 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 Shaetri, S., Singh, K., Kumar, S., Kaur, P., Manontra, V.

Time series forecasting of Covid-19 using deep learning models: India-USA comparative case study

(2020) *Chaos, Solitons and Fractals*, 140, art. no. 110227. Cited 157 times.

<https://www.journals.elsevier.com/chaos-solitons-and-fractals>

doi: 10.1016/j.chaos.2020.110227

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 16 Zeroual, A., Harrou, F., Dairi, A., Sun, Y.

Deep learning methods for forecasting COVID-19 time-Series data: A Comparative study ([Open Access](#))

(2020) *Chaos, Solitons and Fractals*, 140, art. no. 110121. Cited 248 times.

<https://www.journals.elsevier.com/chaos-solitons-and-fractals>

doi: 10.1016/j.chaos.2020.110121

[View at Publisher](#)

- 17 Omran, N.F., Abd-El Ghany, S.F., Saleh, H., Ali, A.A., Gumeai, A., Al-Rakhami, M.

Applying Deep Learning Methods on Time-Series Data for Forecasting COVID-19 in Egypt, Kuwait, and Saudi Arabia

(2021) *Complexity*, 2021, art. no. 6686745. Cited 25 times.

<https://www.hindawi.com/journals/complexity/>

doi: 10.1155/2021/6686745

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 18 Li, X., Ma, X., Xiao, F., Xiao, C., Wang, F., Zhang, S.

Time-series production forecasting method based on the integration of Bidirectional Gated Recurrent Unit (Bi-GRU) network and Sparrow Search Algorithm (SSA) ([Open Access](#))

(2022) *Journal of Petroleum Science and Engineering*, Part A 208, art. no. 109309. Cited 55 times.

<http://www.sciencedirect.com.mapua.idm.oclc.org/science/journal/09204105/81>

doi: 10.1016/j.petrol.2021.109309

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 19 Barman, A.

(2020) Time Series Analysis and Forecasting of COVID-19 Cases Using LSTM and ARIMA Models. Cited 11 times.

arXiv arXiv:2006.13852

- 20 Chimmula, V.K.R., Zhang, L.

Time series forecasting of COVID-19 transmission in Canada using LSTM networks ([Open Access](#))

(2020) *Chaos, Solitons and Fractals*, 135, art. no. 109864. Cited 563 times.

<https://www.journals.elsevier.com/chaos-solitons-and-fractals>

doi: 10.1016/j.chaos.2020.109864

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 21 Abbasimehr, H., Paki, R., Bahrini, A.

A novel approach based on combining deep learning models with statistical methods for COVID-19 time series forecasting

(2022) *Neural Computing and Applications*, 34 (4), pp. 3135-3149. Cited 23 times.

<http://link.springer.com/journal/521>

doi: 10.1007/s00521-021-06548-9

[View at Publisher](#)

- 22 Pathak, Y., Shukla, P.K., Tiwari, A., Stalin, S., Singh, S.

Deep Transfer Learning Based Classification Model for COVID-19 Disease ([Open Access](#))

(2022) *IRBM*, 43 (2), pp. 87-92. Cited 153 times.

<http://www.elsevier.com.mapua.idm.oclc.org>

doi: 10.1016/j.irbm.2020.05.003

Scival topics

Metrics

Funding details

[View at Publisher](#)

- 23 Ketu, S., Mishra, P.K.

India perspective: CNN-LSTM hybrid deep learning model-based COVID-19 prediction and current status of medical resource availability ([Open Access](#))

(2022) *Soft Computing*, 26 (2), pp. 645-664. Cited 31 times.
<https://www.springer.com/journal/500>
doi: 10.1007/s00500-021-06490-x

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 24 Rauf, H.T., Lali, M.I.U., Khan, M.A., Kadry, S., Alolaiyan, H., Razaq, A., Irfan, R.
- Time series forecasting of COVID-19 transmission in Asia Pacific countries using deep neural networks
- (2021) *Pers. Ubiquitous Comput.*, pp. 1-18. Cited 22 times.
[\[CrossRef\]](#)

- 25 Khan, M.A., Khan, R., Algarni, F., Kumar, I., Choudhary, A., Srivastava, A.

Performance evaluation of regression models for COVID-19: A statistical and predictive perspective ([Open Access](#))

(2022) *Ain Shams Engineering Journal*, 13 (2), art. no. 101574. Cited 17 times.
http://www.elsevier.com/mapua.idm.oclc.org/wps/find/journaldescription.cws_home/7242_08/description#description
doi: 10.1016/j.asej.2021.08.016

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 26 Wang, P., Zheng, X., Ai, G., Liu, D., Zhu, B.

Time series prediction for the epidemic trends of COVID-19 using the improved LSTM deep learning method: Case studies in Russia, Peru and Iran ([Open Access](#))

(2020) *Chaos, Solitons and Fractals*, 140, art. no. 110214. Cited 87 times.
<https://www.journals.elsevier.com/chaos-solitons-and-fractals>
doi: 10.1016/j.chaos.2020.110214

[View at Publisher](#)

- 27 Yudistira, N.

(2020) *COVID-19 growth prediction using multivariate long short term memory*. Cited 13 times.
arXiv arXiv:2005.04809

Scival topics

Metrics

Funding details

- 28 Carpenter, M., Luo, C., Wang, X.S.

(2021) *The effects of regularisation on RNN models for time series forecasting: COVID-19 as an example*
arXiv arXiv:2105.05932

- 29 Bernardini, A., De Fina, S.

A neural network to approximate nonlinear functions

(1991) *Midwest Symposium on Circuits and Systems*, art. no. 252103, pp. 545-548.
ISBN: 0780306201
doi: 10.1109/MWSCAS.1991.252103

[View at Publisher](#)

Scival topics

Metrics

Funding details

- 30 Chen, M.X., Firat, O., Bapna, A., Johnson, M., Macherey, W., Foster, G., Jones, L., (...), Chen, Z.

(2018) *The best of both worlds: Combining recent advances in neural machine translation*. Cited 69 times.
arXiv arXiv:1804.09849

[Scival topics](#)

Metrics

Funding details

- 31 Kaselimi, M., Doulamis, N., Voulovodimos, A., Protopapadakis, E., Doulamis, A. **Context Aware Energy Disaggregation Using Adaptive Bidirectional LSTM Models**
(2020) *IEEE Transactions on Smart Grid*, 11 (4), art. no. 9000638, pp. 3054-3067. **Cited 82 times.**
<https://ieeexplore.ieee.org.mapua.idm.oclc.org/servlet/opac?punumber=5165411>
doi: 10.1109/TSG.2020.2974347
[View at Publisher](#)

[Scival topics](#)

Metrics

Funding details

- 32 Hochreiter, S., Schmidhuber, J. **Long Short-Term Memory** ([Open Access](#))
(1997) *Neural Computation*, 9 (8), pp. 1735-1780. **Cited 53782 times.**
<http://www.mitpressjournals.org.mapua.idm.oclc.org/loi/neco>
doi: 10.1162/neco.1997.9.8.1735
[View at Publisher](#)
- 33 Gers, F.A., Schraudolph, N.N., Schmidhuber, J. **Learning precise timing with LSTM recurrent networks** ([Open Access](#))
(2003) *Journal of Machine Learning Research*, 3 (1), pp. 115-143. **Cited 1175 times.**
doi: 10.1162/153244303768966139
[View at Publisher](#)

[Scival topics](#)

Metrics

Funding details

- 34 Ritchie, H., Lucas Rodés-Guirao, E.M., Charlie Giattino, C.A., Ortiz-Ospina, E., Hasell, J., Macdonald, B., Beltekian, D., (...), Roser, M. **Coronavirus Pandemic (COVID-19)**
(2020) *Our World in Data*. **Cited 843 times.**
(accessed on 20 March 2022)
<https://ourworldindata.org/coronavirus>
- 35 **Research and Data to Make Progress Against the World's Largest Problems**. **Cited 2 times.**
(accessed on 20 March 2022)
<https://ourworldindata.org/coronavirus#explore-the-global-situation>

 Kavouras, I.; School of Rural, Surveying and Geoinformatics Engineering, National Technical University of Athens, Athens, Greece; email:ikavouras@mail.ntua.gr
 Kaselimi, M.; School of Rural, Surveying and Geoinformatics Engineering, National Technical University of Athens, Athens, Greece; email:mkaselimi@mail.ntua.gr
© Copyright 2022 Elsevier B.V., All rights reserved.

[Scival topics](#)

[Back to results](#) | < Previous

5 of 13 [Next >](#)

[Top of page](#)

Metrics

Funding details

About Scopus

[Scival topics](#)

[What is Scopus](#)

Metrics

Content coverage

Funding details

Scopus blog

Scopus API

Privacy matters

Language

[日本語版を表示する](#)

[查看简体中文版本](#)

[查看繁體中文版本](#)

[Просмотр версии на русском языке](#)

Customer Service

[Help](#)

[Tutorials](#)

[Contact us](#)

ELSEVIER

[Terms and conditions](#) ↗ [Privacy policy](#) ↗

Copyright © Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the [use of cookies](#) ↗

