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Covid-19 Detection using Optimized CNN from Chest X-Ray

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Abstract: With the exponential rise in cases, the COVID- 19 outbreak has wreaked havoc and suffering all across the world. Priority demands isolationand social seclusion, the only measures that canstop the disease from spreading. It has been noted that COVID-19 RT-PCR testing takes a long time and yields a lot of false positive results. Therefore, given the disease's extensive distribution across all continents, quick and accurate COVID-19 testing is crucial. Alternative methods of detection are urgently needed to fight the disease. In this study, a convolutional neural network-based automated detection system for COVID-19 is developed using chest X-ray images (CNN). The accuracyrate for detection according to the CNN model is 98%.

Keywords: Herbal Drug

REFERENCES

- [1]. Apostolopoulos, I.D., Mpesiana, T.A. Covid- 19: automatic detection from X-ray images utilizing transfer learning with convolutional neural networks. Phys Eng Sci Med 43, 635–640 (2020). https://doi.org/10.1007/s13246-020-00865-4
- [2]. J. D. L. Lovenia, D. Darling Jemima, R. Raghhul and E. Kingsley, "Comparative Study on Detection of COVID-19 using different Convolution Layers," 2021 International Conference on Computational Performance Evaluation (ComPE), 2021, pp. 103-106, doi: 10.1109/ComPE53109.2021.9752416.
- [3]. M. P. Ayyar, J. Benois-Pineau and A. Zemmari, "A Hierarchical Classification System for the Detection of Covid-19 from Chest X-Ray Images," 2021 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW), 2021, pp. 519-528, doi: 10.1109/ICCVW54120.2021.00064.
- [4]. Perumal V, Narayanan V, Rajasekar SJS. Detection of COVID-19 using CXR and CT images using Transfer Learning and Haralick features. Appl Intell (Dordr). 2021;51(1):341- 358. doi: 10.1007/s10489-020-01831-z. Epub 2020 Aug 12. PMID: 35194321; PMCID: PMC8852781.
- [5]. Zhao, W.; Jiang, W.; Qiu, X. Fine-Tuning Convolutional Neural Networks for COVID-19 Detection from Chest X-ray Images. Diagnostics 2021, 11, 1887. https://doi.org/10.3390/diagnostics11101887