Qeios

Peer Review

Review of: "Development of a Lung Cancer Detection System Using Residual Network 50 on Computed Tomography Scans"

Krishna Kumar Joshi[1]

1. Computer Science & Engineering, Rajiv Gandhi Technical University, Bhopal, India

- The manuscript addresses an important healthcare problem by applying a ResNet50-based deep learning model for lung cancer detection from CT scans. While the work demonstrates good performance, the novelty is somewhat limited, as ResNet50 with transfer learning has already been widely explored in prior studies. The authors should more clearly emphasise the unique contribution of combining multiple datasets and deploying the model as a web application.
- The methodology is generally well organised and easy to follow. The preprocessing, dataset balancing, transfer learning strategy, and training procedures are adequately described. However, additional details on hyperparameter selection, the number of training epochs, batch size, and computational resources would improve the reproducibility of the proposed framework.
- The reported performance metrics (98.46% accuracy, 97.69% precision, 99.21% recall, and 98.45% F1-score) indicate excellent classification performance. However, the evaluation would be stronger if the authors compared their model experimentally with other state-of-the-art deep learning architectures, such as EfficientNet, DenseNet, or Vision Transformers, using the same dataset.
- The manuscript is generally well structured, with a logical flow from introduction to conclusion. However, the language can be improved by reducing repetitive statements and simplifying lengthy explanations. Careful proofreading is recommended to improve readability and maintain a more concise scientific writing style.
- The conclusion appropriately summarises the findings and highlights the potential clinical usefulness of the proposed system. Nevertheless, the limitations of the study should be discussed more explicitly,

doi.org/10.32388/8BY9QX

particularly regarding dataset size, external validation, and the absence of clinical testing. Including these limitations would provide a more balanced and realistic assessment of the proposed approach.

- Kindly add the below related references:
- Joshi, K.K., Gupta, K. & Agrawal, J. An efficient transfer learning approach for prediction and classification of SARS – COVID -19. Multimed Tools Appl 83, 39435–39457(2024). https://doi.org/10.1007/s11042-023-17086-y

Joshi, K.K., Gupta, K., Agrawal, J.(2025). Detection of Severe Acute Respiratory Syndrome CoronaVirus Disease Using Transfer Learning Approach. In: Rathore,V.S., Murala, S., Tuba, E., Singh, M.M.(eds) Modern Practices and Trends in Expert Applications and Security. MP-TEAS 2024. Lecture Notes in Networks and Systems, vol 1379. Springer, Singapore. https://doi.org/10.1007/978-981-96-5784-1_2

Declarations

Potential competing interests: No potential competing interests to declare.