

PEER-REVIEW REPORT

Name of journal: *Artificial Intelligence in Medical Imaging*

Manuscript NO: 74264

Title: Applications of artificial intelligence in lung ultrasound: review of deep learning methods for COVID-19 fighting

Provenance and peer review: Invited manuscript; externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05446606

Position: Peer Reviewer

Academic degree: PhD

Professional title: Chairman

Reviewer's Country/Territory: Belarus

Author's Country/Territory: Italy

Manuscript submission date: 2021-12-19

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-01-03 05:41

Reviewer performed review: 2022-01-11 12:39

Review time: 8 Days and 6 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Peer-reviewer
statements**Peer-Review: [☐] Anonymous [☒] OnymousConflicts-of-Interest: [☐] Yes [☒] No**SPECIFIC COMMENTS TO AUTHORS**

I read the article with great interest. The material presented in the article has a high scientific level. However, I have minor comments. 1. Ultrasound of the lungs allows detecting not pneumonia, but interstitial lesions in the lungs characteristic of COVID-19 (interstitial syndrome, consolidation). It should be remembered that this lesions are not a specific ultrasound sign of pneumonia in COVID-19. Many conditions (e.g. pneumonia, malignancy, pulmonary embolism, atelectasis, contusion, aspiration) may result in change of the lung tissue aeration. 2. The authors rightly point out that computed tomography has specificity limitations. However, ultrasound has the same specificity limitations. 3. In the literature reference [16] I did not find information about high sensitivity in the differential diagnosis of various lung pathologies (viral versus bacterial).

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Reviewer's code: 05571761

Position: Peer Reviewer

Academic degree: PhD

Professional title: Academic Research, Reader (Associate Professor), Research Fellow

Reviewer's Country/Territory: China

Author's Country/Territory: Italy

Manuscript submission date: 2021-12-19

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-01-20 13:14

Reviewer performed review: 2022-02-02 04:04

Review time: 12 Days and 14 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No



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Peer-reviewer statements	Peer-Review: [<input checked="" type="radio"/>] Anonymous [<input type="radio"/>] Onymous Conflicts-of-Interest: [<input type="radio"/>] Yes [<input checked="" type="radio"/>] No
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SPECIFIC COMMENTS TO AUTHORS

This work is interesting. Several aspects discussed are the research hotspots in the application of artificial intelligence in medical image. However, some concerns may improve the compactness and readability of the paper: 1. It is recommended that charts and discussion paragraphs be placed together for easy reading and better understanding. 2. The contents of the discussion chapter and the previous corresponding discussion points are mostly repeated, which makes the content redundant and reduces the compactness of the article. 3. Can you add to the discussion on the use of evaluation indicators in these related work? I think this is also a very meaningful work.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Reviewer's code: 05571761

Position: Peer Reviewer

Academic degree: PhD

Professional title: Academic Research, Reader (Associate Professor), Research Fellow

Reviewer's Country/Territory: China

Author's Country/Territory: Italy

Manuscript submission date: 2021-12-19

Reviewer chosen by: Ji-Hong Liu

Reviewer accepted review: 2022-03-18 02:18

Reviewer performed review: 2022-03-18 02:57

Review time: 1 Hour

Scientific quality	<input checked="" type="radio"/> Grade A: Excellent <input type="radio"/> Grade B: Very good <input type="radio"/> Grade C: Good <input type="radio"/> Grade D: Fair <input type="radio"/> Grade E: Do not publish
Language quality	<input checked="" type="radio"/> Grade A: Priority publishing <input type="radio"/> Grade B: Minor language polishing <input type="radio"/> Grade C: A great deal of language polishing <input type="radio"/> Grade D: Rejection
Conclusion	<input checked="" type="radio"/> Accept (High priority) <input type="radio"/> Accept (General priority) <input type="radio"/> Minor revision <input type="radio"/> Major revision <input type="radio"/> Rejection
Peer-reviewer	Peer-Review: <input checked="" type="radio"/> Anonymous <input type="radio"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The authors have met most of my concerns and I recommend publication of this work.