

PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Cancer

Manuscript NO: 65521

Title: Advances in the application of artificial intelligence in solid tumor imaging

Reviewer's code: 05585939

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2021-03-09

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-03-10 08:27

Reviewer performed review: 2021-03-15 12:09

Review time: 5 Days and 3 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" 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
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The author summarizes the application of artificial intelligence to diagnose a variety of tumors. This is an interesting study. The author's research is very meaningful, but the entire manuscript needs to be further improved. My comments are given below:

1. In page 3, Abstract. I feel that, authors should describe (i) background, (ii) methods and (iii) results.
2. In Core tip. I am sorry, I cannot understand what "clinical performance parameters" means. It means the performance of model or the parameters of AI models or the metric of performance?
3. In Core tip. The last sentence, please pay attention to the logic of the description.
4. Introduction, the authors should describe the background, significance, and the propose of this manuscript.
5. Since the author's purpose is to summarize the application of artificial intelligence in the diagnosis of tumors, authors should introduce the basic structure of each artificial intelligence model while introducing different work performances. So that readers can have a clearer understanding of the current research progress. Therefore, please consider carefully reorganizing the entire manuscript.
6. It is recommended to add a meta table at the end of each section (such as "APPLICATION OF AI IN GASTROINTESTINAL TUMORS" et al.). Like this, Author Year Diseases Data Type Data size Model Performance
7. In page4, Introduction, authors show that "Here, we highlight the greatest advantage of AI (efficient diagnostic performance with high sensitivity and specificity)". But I found that some of the work presented by the author did not describe the sensitivity and specificity. Therefore, it is recommended to carefully revise the overall statement of the paper to make the expression of the manuscript more accurate. The language polish certificate has been provided, but what needs to be improved is not the language but the accuracy of expression.
8. The author needs to consider how to make the expression not ambiguous. Such as, in page 13, "In pancreas CT, iUnet provides a better detection baseline than iFCN (78.1% \pm 8.7% vs 72.3% \pm 11.4%)". What is the 78.1% \pm 8.7% mean? It



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means accuracy, precision, AUC, or other metrics? 9. Conclusion may need to be improved. Please discuss the advantages and disadvantages of AI diagnosis of tumors in detail. For example, why AI may have broader prospects? Why it is difficult for AI to get a lot of data. At the same time, some opinion should be support by reference, in review paper. Such as, who find that the AI model having false-positive phenomenon.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: Artificial Intelligence in Cancer

Manuscript NO: 65521

Title: Advances in the application of artificial intelligence in solid tumor imaging

Reviewer's code: 05334788

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: United Kingdom

Author's Country/Territory: China

Manuscript submission date: 2021-03-09

Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2021-04-15 11:18

Reviewer performed review: 2021-04-16 00:03

Review time: 12 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 type="checkbox"/> Grade A: Priority publishing <input checked="" 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
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The revised manuscript is acceptable.