



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 59085

Title: Current Trends of Artificial Intelligence in Cancer Imaging

Reviewer's code: 03123399

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Chief Physician, Director, Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Italy

Manuscript submission date: 2020-08-23

Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2020-08-24 10:01

Reviewer performed review: 2020-08-24 11:23

Review time: 1 Hour

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 Grade E: Do not publish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 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



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SPECIFIC COMMENTS TO AUTHORS

The author selected a new topic concerned about the application of AI technology in tumor, and the author's original intention and ideas are good. However, However, the topic selection is too macro and huge, there are some questions on broad and empty in the review. So that It is recommended to focus on lung cancer or one of breast cancer. We hope that the main problems and challenges in oncology in this review will be explained more clearly for the application of AI technology in lung cancer or breast cancer.



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 59085

Title: Current Trends of Artificial Intelligence in Cancer Imaging

Reviewer's code: 01898555

Position: Editorial Board

Academic degree: MD, MSc, PhD

Professional title: Professor

Reviewer's Country/Territory: United States

Author's Country/Territory: Italy

Manuscript submission date: 2020-08-23

Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2020-08-24 11:50

Reviewer performed review: 2020-08-24 21:38

Review time: 9 Hours

Scientific quality	<input checked="" type="checkbox"/> Grade A: Excellent <input 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 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 checked="" type="checkbox"/> Accept (High priority) <input 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: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

This is well-written commentary on AI in oncology. I believe this can be a very useful article for future of oncology. AI can also play a role in cancer histopathological diagnosis as well as molecular diagnosis. This can be added. There are high interests in applications of AI to clinical diagnostics but also to clinical and epidemiological research. AI can be applied in research areas, which can generate evidence for improvement of clinical practice. Especially how lifestyle can influence clinical outcomes is an understudied area. In these contexts, as a future direction, the authors should discuss integration of AI into molecular pathological epidemiology (MPE). Beyond regular (molecular) pathology techniques, AI can reveal pathogenic signatures that can be further linked to risk factors and better response to therapy and intervention. MPE concepts and approaches have been discussed in Gut 2011, Annu Rev Pathol 2019, etc.



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 59085

Title: Current Trends of Artificial Intelligence in Cancer Imaging

Reviewer's code: 00646357

Position: Editor-in-Chief

Academic degree: MD, PhD

Professional title: Chairman, Professor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: Italy

Manuscript submission date: 2020-08-23

Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2020-08-24 03:30

Reviewer performed review: 2020-08-25 05:17

Review time: 1 Day and 1 Hour

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 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 checked="" 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: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

-Add more on the basic of AI in the introduction -Discuss shortly about imaging modalities used such as CT and MR imaging in oncology detection -Add shortly about advanced MR sequences and its application with AI -English language correction through the manuscript -Discuss merits and limitations of AI



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 59085

Title: Current Trends of Artificial Intelligence in Cancer Imaging

Reviewer's code: 03269175

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Chief Physician

Reviewer's Country/Territory: China

Author's Country/Territory: Italy

Manuscript submission date: 2020-08-23

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-08-24 07:08

Reviewer performed review: 2020-08-28 23:41

Review time: 4 Days and 16 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input checked="" type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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SPECIFIC COMMENTS TO AUTHORS

The topic of this manuscript is the trend of artificial intelligence (AI) in oncology. The author reviews the basic knowledge of machine learning and deep learning technology, as well as their new applications in clinical and imaging workflows, to explore AI in oncology Research status in China. The manuscript mainly includes five parts: optimizing the clinical-radiology workflow, cancer detection, tumor segmentation, characteristics and staging, efficacy monitoring, and future directions and challenges. The author made a brief review of the above five parts by consulting the relevant literature in the last 3 years, and introduced the new trend of AI in oncology applications. However, the manuscript still has shortcomings. 1. The topic of the manuscript is broad, but the content of the manuscript is not substantial enough. The content of each part is relatively simple and superficial, which does not allow readers to fully understand the current situation of AI in oncology, and does not reach the manuscript the goal of. At the same time, by consulting related published reviews, most of the manuscripts are reviews for a specific tumor or specific method in AI. The focus of the manuscript is more prominent and the content is more substantial. 2. The title of the manuscript is the trend of AI in oncology, but it does not provide a relevant review of the research trend of AI in tumor pathology, tumor genomics and proteomics. 3. Regarding the application of AI in optimizing clinical-radiology workflow and tumor segmentation, characteristics and staging, the content of these two parts is rather confusing, and some references cited do not match the subtitles of the manuscript. For example, in the section of tumor segmentation, characteristics and staging, the cited literature is: the model established by combining MRI radiological characteristics and machine learning methods shows better performance than radiologists in distinguishing typical and atypical adenomas from non-adrenal glands Adenoma lesions; machine learning based on non-enhanced CT images to distinguish benign granuloma and non-small cell adenocarcinoma has better



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performance than radiologists. These references do not match the subtitle.