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PEER-REVIEW REPORT

Name of journal: *World Journal of Radiology*

Manuscript NO: 75501

Title: Artificial Intelligence Technologies in Nuclear Medicine

Provenance and peer review: Invited manuscript; externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 00505755
Position: Editorial Board
Academic degree: PhD
Professional title: Senior Research Fellow
Reviewer's Country/Territory: Japan
Author's Country/Territory: Turkey

Manuscript submission date: 2022-01-31

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-02-01 02:17

Reviewer performed review: 2022-02-01 02:31

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

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

SPECIFIC COMMENTS TO AUTHORS

This minireview demonstrates AI application in nuclear medicine. How AI integration plays a significant role in precision medicine in nuclear medicine may be discussed more in detail in Introduction with additional references. Requirement of a number of data may be discussed more in detail.

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Name of journal: *World Journal of Radiology*

Manuscript NO: 75501

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Provenance and peer review: Invited manuscript; externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03863132
Position: Editorial Board
Academic degree: PhD

Professional title: Assistant Professor, Senior Research Fellow

Reviewer's Country/Territory: France

Author's Country/Territory: Turkey

Manuscript submission date: 2022-01-31

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-02-01 08:33

Reviewer performed review: 2022-02-10 09:35

Review time: 9 Days and 1 Hour

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

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

SPECIFIC COMMENTS TO AUTHORS

This is a mini-review that provides a general vision of the most artificial intelligence models applied in nuclear medicine. The manuscript is well structured and can be read fluently. However, there are little typos that must be corrected. I simply suggest the authors to incorporate a paragraph about federated learning since that is one solution for the drawbacks pointed out in the conclusion respect the direct application of artificial intelligence on patient's records. Overall, this work is in agreement with the criteria of the journal and I recommend its publication.

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PEER-REVIEW REPORT

Name of journal: *World Journal of Radiology*

Manuscript NO: 75501

Title: Artificial Intelligence Technologies in Nuclear Medicine

Provenance and peer review: Invited manuscript; externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05466317
Position: Peer Reviewer
Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Turkey

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Reviewer performed review: 2022-02-10 11:20

Review time: 9 Days and 8 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [Y] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

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

SPECIFIC COMMENTS TO AUTHORS

1. This is a review of recent Al research in nuclear medicine, but there are few original researches on this topic(only refs 10-17). However, there are hundreds of researches in PubMed or Embase database. The review of this topic is not deep or professional enough.

2. "AI technologies in nuclear medicine" is a very huge topic. The "introduction" and "AI model" parts are common sense for Al researchers. I suggest that the author focuses on one topic such as AI research in nuclear cardiology or nuclear oncology or one kind of specific disease (like thyroid cancer) so that the review can be more deep and instructive.

3. What's the further clinical meaning of the list research of enhancement of image quality or interpretation of images? Do they facilitate the diagnosis or prognosis of one kind of disease?