

Dear Editor,

We appreciate your efforts regarding our research. We will do our best to maintain integrity and respond fairly to the hard-working reviewers. Furthermore, we are thankful to the editor and the reviewers for their constructive comments.

Much Obligated

**Reviewer #1:**

1. This is a review of recent AI 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 AI 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?

**Response:**

Thank you for raising this issue. However, this is a minireview that demonstrates AI application in nuclear medicine and gives a basic overview. In the future, there could be more detailed reviews written about topics such as nuclear cardiology or nuclear oncology. However, this was not our goal. The clinical meaning of the list of research is currently unclear due to the many issues such as ethical or practical ones as outlined in our minireview.

**Reviewer #2:**

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.

**Response:**

Thank you for your positive feedback on our work. We appreciate your feedback and have applied the necessary changes. Moreover, additional English language revision was performed. Furthermore, we have added information about federated learning.

**Reviewer #3:**

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.

**Response:**

Thank you for your positive feedback on our work. We appreciate your feedback and have applied the necessary changes. The requirement of data varies across different algorithms and tasks; that's why no specific number was included.

**4 LANGUAGE POLISHING REQUIREMENTS FOR REVISED MANUSCRIPTS SUBMITTED BY AUTHORS WHO ARE NON-NATIVE SPEAKERS OF ENGLISH**

As the revision process results in changes to the content of the manuscript, language problems may exist in the revised manuscript. Thus, it is necessary to perform further language polishing that will ensure all grammatical, syntactical, formatting and other related errors be resolved, so that the revised manuscript will meet the publication requirement (Grade A).

Authors are requested to send their revised manuscript to a professional English language editing company or a native English-speaking expert to polish the manuscript further. When the authors submit the subsequent polished manuscript to us, they must provide a new language certificate along with the manuscript.

**Response:**

Additional English language revision was performed, and a new language certificate was acquired and provided.

## 5 ABBREVIATIONS

In general, do not use non-standard abbreviations, unless they appear at least two times in the text preceding the first usage/ definition. Certain commonly used abbreviations, such as DNA, RNA, HIV, LD50, PCR, HBV, ECG, WBC, RBC, CT, ESR, CSF, IgG, ELISA, PBS, ATP, EDTA, and mAb, do not need to be defined and can be used directly.

The basic rules on abbreviations are provided here:

**(1) Title:** Abbreviations are not permitted. Please spell out any abbreviation in the title.

**(2) Running title:** Abbreviations are permitted. Also, please shorten the running title to no more than 6 words.

**(3) Abstract:** Abbreviations must be defined upon first appearance in the Abstract. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*).

**(4) Key Words:** Abbreviations must be defined upon first appearance in the Key Words.

**(5) Core Tip:** Abbreviations must be defined upon first appearance in the Core Tip. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

**(6) Main Text:** Abbreviations must be defined upon first appearance in the Main Text. Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

**(7) Article Highlights:** Abbreviations must be defined upon first appearance in the Article Highlights. Example 1: Hepatocellular carcinoma (HCC).

Example 2: *Helicobacter pylori* (*H. pylori*)

**(8) Figures:** Abbreviations are not allowed in the Figure title. For the Figure Legend text, abbreviations are allowed but must be defined upon first appearance in the text. Example 1: A: Hepatocellular carcinoma (HCC) biopsy sample; B: HCC-adjacent tissue sample. For any abbreviation that appears in the Figure itself but is not included in the Figure Legend textual description, it will be defined (separated by semicolons) at the end of the figure legend. Example 2: BMI: Body mass index; US: Ultrasound.

**(9) Tables:** Abbreviations are not allowed in the Table title. For the Table itself, please verify all abbreviations used in tables are defined (separated by semicolons) directly underneath the table. Example 1: BMI: Body mass index; US: Ultrasound.

**Response:**

Thank you, we have fulfilled the necessary requirements.

6 EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

(1) Science editor:

The manuscript reports the overall vision of most AI models applied in nuclear medicine. The manuscript is well written and can be helpful for the readers to ameliorate the diagnostic and therapeutic approach for this scenario. In order to increase the readability of the article, the manuscript needs to be supported by diagrams or tables.

Language Quality: Grade B (Minor language polishing)

Scientific Quality: Grade C (Good)

**Response:**

We kindly thank you for your feedback. We have added a table and a figure in order to improve readability and clarity.

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements

of the World Journal of Radiology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before final acceptance, the author(s) must add a table/figure to the manuscript.

**Response:**

We kindly thank you for your feedback. We have added a table and a figure in order to improve readability and clarity. Furthermore, we have added the necessary details.