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Dear WJR editors,

Dear reviewers,

Thank you for your time to review our paper. We acknowledge that our paper might have some issues in conformity with the referees' comments. We have addressed them and revised the manuscript accordingly. We are confident that the typographic, linguistic and grammatical errors have been diligently corrected. This can be seen by the numerous track changes in the word document. The changes have been done with respect to the English language.

We sincerely thank the three reviewers for their thorough and helpful comments and suggestions! We have addressed all of the raised queries, and we have responded to all comments of the Reviewers.

We believe that you find these changes satisfactory and the revisions have substantially improved the quality of the manuscript.

Round 1

Reviewer #1:

Scientific Quality: Grade D (Fair)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors: The manuscript is devoted to the state-of-the-art and prospects of using artificial intelligence (AI) in prostate imaging. The authors intended it as a minireview. Its topic is definitely relevant and such a review could be of great interest to the readers. Unfortunately, in my view, the authors failed to cope with their task. The text has more the semblance of a "bulletin of progress and prospects" than of a scientific paper and could be published in a popular science journal but not in a scientific one. That is why I cannot recommend its publication in the form it is currently submitted in. I suggest that the authors refine their manuscript. I am sending five comments to them and very much like to get their reply. Only after getting it I will be able to decide whether to recommend their manuscript for publication in the World Journal of Radiology.

- Thank you for the overall evaluation of our study. We are grateful for all the valuable comments and did our best to implement them to improve the paper. We can see that some of the points are severely critical. However, we hope that the reviewers' requirements will be satisfied since we addressed them appropriately.

Comments 1. The main fault of the manuscript is that it is too short even for minireview and only scratches the surface of the subject. The authors write about AI application but "neural network",

the fundamental AI term, is met only once. The main body of information is given in Table 1, which presents AI products available for use. But in fact, they are only listed and their description is very limited. No information is given on the AI methods and algorithms used in these products. I ask the authors to clear this trouble by adding a description of AI method and algorithms for prostate imaging. This will give more sound to the scientific content of the manuscript. Needless to say the description must be no longer than required for a minireview.

- Thank you for the valuable note. We have expanded the information on each specific AI product offering by providing the specific benefits of each individual software.

2. Only a single figure is given in the manuscript. It is not enough. I would recommend the authors to give some other examples of images and, possibly, illustrative schemes that demonstrate AI application in prostate imaging. Visual attractiveness must add respectability to the manuscript.

- Thank you for pointing out this flaw. After presenting in detail each of the software options for prostate carcinoma detection, we propose an algorithm for accurate diagnosis presented in Fig. 1
- New Figure (Figure 3) was added for better illustration of PET-CT findings in prostate carcinoma with secondary metastatic dissemination.
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3. I would advise the authors to rewrite Section "Conclusion". Now it looks an Incomplete List of Inferences rather than a Conclusion. Standardly, Conclusion section should first review, analyze and systematize all results the authors obtained and only then, on the basis of these results, formulate the final conclusion and, possibly, announce future research.

- The conclusion has been revised to reflect the changes in the previous paragraphs as well. The greatest advantages of artificial intelligence and its possibilities for improving the diagnostic approach have been demonstrated.

4. The list of References has only 22 entries – too small even for a minireview. I think this fault is the easiest to remove. If the authors will describe AI methods and algorithms (see Comment 1), they will have to refer to appropriate references which must be as many as to make the total number of entries in the list about 50 or so.

- New information has been introduced and citations have been supplemented

5. On whole, the English of the manuscript is not bad. However, there are errors both in grammar and in style. Several examples are provided below. It should be noted that the language problem can be a reason to reject the manuscript. That is why I recommend the authors to carefully test each phrase in the text for errors.

- The text has been proofread and grammatical errors have been corrected.

Examples of errors 5.1. Page 3, Core tip, the first sentence. I think the phrase "using artificial intelligence in prostate cancer" is not correct. May be "in prostate cancer diagnosis"?

- We agree with the reviewer 1 comment and correction in the main manuscript is done.

5.2. Page 6, line 4. "Nevertheless, a study by Gaur et al. Reduction of the time of interpretation of studies with the help of artificial intelligence is possible." What authors do want to say?

- Study of Gaur et al. has been cited – please refer to citation 24 at page 6 from the manuscript.

5.3. Page7, line 7. The word “quantitive” should be “quantitative”.

- Thank you for your valuable remark. This correction was performed.

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: The authors wrote a review regarding AI for prostate cancer diagnostic algorithms. I think this paper showed AI assists the specialist in accurately segmenting the prostate and determining the prostate carcinoma's localization, exact characterization, and determination of its volume and staging according to the current Prostate Imaging Reporting & Data System (PI-RADS) classification. Good design and prospective! I only recommended the author to add some new imaging modalities such as PSMA PET-CT involved in the diagnosis and treatment for prostate cancer which also has AI algorithms now.

- Thank you for the overall evaluation of our study as good. We are grateful for all the valuable comments and did our best to implement them to improve the paper.
- New paragraph for PET – CT is made and the role of AI in this field has been cleared.

Reviewer #3:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors: The work is somehow new but several limitations from the English to the technical hinder to grasp the main point of the work, some of them are listed below:

- Thank you for the overall evaluation of our study. We are grateful for all the valuable comments and did our best to implement them to improve the paper.
- 1- In my opinion, the abstract is too cumbersome and is hard to catch the key point. The keywords need to be more detailed.
 - The abstract has been completely revised according to your recommendations and shows clearly and precisely what the purpose of artificial intelligence in the field is. The keywords have been changed.
 - 2- Proofread the manuscript, with particular attention to grammatical mistakes and improved the formatting of text, figures, and tables.
 - The text has been thoroughly reviewed and all grammatical errors have been corrected.

- 3- 3- The manuscript structure is too short and must be elaborated in the technology they applied as well support more rigorous technical aspects.
- New paragraphs have been added to the text and existing chapters have been expanded.
- 4- 4- An introduction should clearly highlight the motivation, problem statement, the objective of the paper, gap in the existing research and the novelty of the conducted research.
- In the last paragraph of the introduction, the possibilities of artificial intelligence in the diagnosis of prostate carcinoma are added
- 5- 5- The contributions presented in this manuscript are not sufficient for possible publication in this journal. I highly suggest authors to clearly define the contributions.
- the contribution of each of the team is described by sections
- 6- 6- Many details are missing and others unclear.
- The entire text has been revised, paying attention to all the missing details. The texts have been reworked to make them clearer.
- 7- 7- The conclusions in this manuscript are primitive. Write your conclusions.
- The conclusion has been revised to reflect the changes in the previous paragraphs as well. The greatest advantages of artificial intelligence and its possibilities for improving the diagnostic approach have been demonstrated.
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- 8- 8- The manuscript is hard to be understood and words should be improved. Additional References: The following articles could be useful: -Has the Future Started? The Current Growth of Artificial Intelligence, Machine Learning, and Deep Learning. <https://doi.org/10.52866/ijcsm.2022.01.01.013> -A diagnostic testing for people with appendicitis using machine learning techniques. <https://doi.org/10.1007/s11042-022-11939-8>
- Thanks for the suggested articles. We have included them in the text of our publication.

Round 2

In. the revised manuscript, the authors have addressed all my concerns, as a result, the reviewer would like to recommend this manuscript publish as is.