Response to the Reviewers

We are deeply grateful to the reviewers for the favorable review of our manuscript and finding our studies to be "important", "interesting", and "comprehensive". We also greatly appreciate the reviewers' critique to help improve and increase the impact of our review. We positively addressed each of the concern raised and included in the revised manuscript.

Response to Reviewer #1

We thank the reviewer for the positive comments, we also greatly appreciate the reviewer's suggestions to tell a little more specific about small bowel capsule endoscopy and AI.

Point-by-Point Response to reviewer's suggestions

<u>Specific Comments to Authors:</u> This is very interesting paper about AI and endoscopy. With a small intestine capsule endoscope, it is a heavy burden for the reader to take 60,000 images per patient and to take an endoscopic image for 30 to 120 minutes, and it is a heavy burden for the reader to overlook the lesion. It would be nice if there was an AI system. I ask question to author. Please tell me a little more specific about small bowel capsule endoscopy and AI.

Answer: The necessary information have been added in revised manuscript.

Response to Reviewer #2

We thank the reviewer for finding the subject of our review interesting. We are also grateful to the reviewer for suggestion to add table and figure.

Point-by-point Response to reviewer's comments

Specific Comments to Authors: Comments for ESPS Manuscript NO 58662 This review is interesting, and the authors should add necessary tables and figures to simplify the complexity of the text, so that the readers have a more intuitive understanding of the content of this paper.

Answer: We greatly appreciate the reviewer's suggestion. The necessary changes have been made in revised manuscript.

Response to Reviewer #3

We are very thankful to the reviewer for bringing important points to our attention. The necessary changes have been made in revised manuscript.

Point-by-point Response to reviewer's comments

Specific Comments to Authors: This manuscript deals with artificial intelligence and gastrointestinal endoscopy, providing an overview and future perspectives; however, some items require improvement.

1) First, the legal aspect is only mentioned very briefly in the "limitations" section and should be covered in more detail.

   Answer: We thank the reviewer for raising this valid point; the necessary changes have been made.

2) Second, illustrative material would be helpful

   Answer: The necessary changes have been made. Table and Figure have been added in revised manuscript

3) Third,the term "endocystoscopy" (sections "Artificial Intelligence and Endoscopy" and "AI in Barret's Esophagus and Esophageal Cancer") is misleading – as it does not refer to cysts or to the bladder (as in "cystoscopy"), "endocytoscopy" would be appropriate. Moreover, some sentences are unclear; e.g., "As the name indicates, unsupervised learning the model makes sense of the data without external measurements or guidelines" (section "Machine learning"); "CNN as an advanced learning model and is designed to utilize large datasets to learn patterns in correlating images" (section "Convolutional neural networks"); "Using computer-aided frameworks, AI algorithms can identify pancreatic cysts that are at higher risk of developing into PC reported an ANN that can be used to predict PC, with a sensitivity of 80.7% and a specificity of 80.7%, based only on personal health data" (section "Artificial Intelligence and Endoscopic Ultrasound").

   Answer: We thank the reviewer for bringing this to our attention. The necessary changes have been made in revised manuscript.

Response to Reviewer #4

We are very thankful to the reviewer for bringing important points to our attention. The necessary changes have been made in revised manuscript.

Point-by-point Response to reviewer's comments

Specific Comments to Authors: 1、In this review, the authors discuss the applications and future possibilities of AI and other technological terminologies evolving role in gastrointestinal endoscopy. While this is an interesting topic, the correlation between AI and other associated technological terms has not been fully demonstrated.

Answer: We thank the reviewer for bringing this to our attention. The necessary Figure have been added in this part of revised manuscript.

2、The English search terms of "artificial intelligence and endoscopy, computeraided diagnosis and endoscopy, computer-aided detection, CAD, neural networks, and endoscopy" for this review may not be comprehensive enough. It would be great to also include words such as machine learning and gastric cancer, so that the literature can be more comprehensive investigation.

Answer: The necessary changes have been made and new terms added in revised manuscript.

3、A problem is overlooked in the limitations of AI in gastrointestinal endoscopy: various types of digestive tract lesion images have obvious individual differences, which are more difficult to label than general medical data.

Answer: We appreciate the reviewer's concern and the necessary changes have been made in revised manuscript.

4 、The manuscript lacks direct and clear tables or figures to show the author's views more vividly.

Answer: We thank the reviewer and new Table and Figure have been added in revised manuscript

Minor Comments:

5、The description order of various AI systems in different applications is a bit messy, and there is no reasonable logical order for each subtitle part. 6、The discussion is not deep enough. 7、There are inconsistencies in the format of references. 8、There are some typos in the English expression and some sentences are difficult to follow. For example: Line 4 and Line 9 in Artificial Intelligence and Endoscopy. "endocystoscopy" should be "endocytoscopy". the second paragraph in AI in Gastric Cancer. In the sentence: "Superficially depressed and differentiated-type intramucosal cancers that were difficult to distinguish from gastritis even for experienced endoscopists were missed", is it means "not missed"?

Answer: We thank the reviewer for bringing this to our attention. We tried to address all the all minor corrections suggested by the reviewer. We greatly appreciate the reviewer's suggestions.

Response to Reviewer #5

We thank the reviewer for finding the subject of our review interesting. We are also grateful to the reviewer for suggestion to add table and making changes in terminology.

Point-by-point Response to reviewer's comments

Specific Comments to Authors: In this review, the authors discuss AI and associated various technological terminologies, evolving role in gastrointestinal endoscopy, and future possibilities. It's an interesting review. This manuscript is in the scope of the journal. It could provide the comprehensive and systemic report to the readers. However, there're still several issues which should be addressed. 1. Some tables should be added to make the manuscript clearer.

Answer: We appreciate the reviewer for raising this point. The necessary changes have been made in the revised manuscript, and new table incorporated in the revised manuscript.

2. The section of "Terminology" should be deleted or reduced. So, minor revision should be recommended.

Answer: We appreciate the reviewer's concern. The terminology section is reduced and a figure has been incorporated in the revised manuscript to make it clearer.

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