

Dear editors and reviewers,

Thank you for your consideration and efforts paid on our manuscript. We have carefully revised our manuscript according to the peer-review report and provided a point-by-point response resolving all issues raised by the reviewers.

Reviewer #1:

Scientific Quality: Grade A (Excellent)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: I read this study with great interest. This study aimed to develop a deep learning computer-assisted diagnosis system for the endoscopic detection of superficial ESCC and investigate its application value. The manuscript is very well written. The methods are clearly described, and the results are reasonable. The results are interesting and import to the clinicians. Well done! Thank you.

Response: Thank you for your review and comments on our manuscript. We feel encouraged by your positive feedback on our work. As you pointed out that the language needs further polishing, we have had our manuscript further checked and edited by native speakers to increase the readability. Thank you.

Reviewer #2:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: Artificial intelligence-aided endoscopy has garnered attention, with several studies showing this technique to be a promising tool for improving the detection of early ESCC. Most early stage ESCC are flat and subtle in appearance under white light imaging or image-enhanced endoscopy, which is not easy to identify, especially for inexperienced endoscopists. There are few computer-assisted diagnosis systems for ESCC that

support both white light imaging and narrow-band imaging have been applied in clinical practice. This study was designed to develop and validate a novel computer-assisted diagnosis system with a deep neural network algorithm to detect superficial ESCC under upper endoscopy with white light imaging and narrow-band imaging. The study is very well designed and the well performed. The results are very interesting, and well discussed. The reviewer recommends to accept this study after a minor revision.

Comments: 1. There are some minor language polishing, which should be corrected.

Response: Thank you for your review and comments on our manuscript. We feel encouraged by your positive feedback on our work. We have had our manuscript further checked and edited by native speakers to correct grammatical errors and increase the readability.

2. What's the future applications of this methodology? Please make a short discussion.

Response: Thank you for your valuable suggestion. We have added a paragraph (in red) in the discussion section that elucidated its application in clinical practice and the near future. The CAD system could now be integrated into the endoscopy workstation, capture images while inspecting the esophagus, and automatically detect potential lesions. We are now developing an updated CAD system that could deal with images with suboptimal quality and real-time videos, which will further facilitate clinical practice. In the near future, both the endoscopists and patients will benefit from the increasing application of AI in endoscopy service.

3. The references should be edited and updated.

Response: Thank you for your suggestions. We have edited and updated the references.

Reviewer #3:

Scientific Quality: Grade A (Excellent)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (High priority)

Specific Comments to Authors: This is an excellent paper on a very interesting and timely issue which is the application of artificial intelligence in medicine, and gastroenterology specifically here. The authors provide us with a well-designed experiment, which despite the limitations that they themselves note in the discussion, is an important first step. The only comment that perhaps the authors could add a paragraph about future applications of their methodology.

Response: Thank you for your valuable suggestions. We have added a paragraph (in red) in the discussion section that elucidated its application in clinical practice and the near future. The CAD system could now be integrated into the endoscopy workstation, capture images while inspecting the esophagus, and automatically detect potential lesions. We are now developing an updated CAD system that could deal with images with suboptimal quality and real-time videos, which will further facilitate clinical practice. In the near future, both the endoscopists and patients will benefit from the increasing application of AI in endoscopy service.

As you pointed out that the language needs further polishing, we have had our manuscript further checked and edited by native speakers to increase the readability. Thank you.