



## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Gastroenterology*

**Manuscript NO:** 78498

**Title:** Enhanced segmentation of gastrointestinal polyps from capsule endoscopy images with artifacts using ensemble learning

**Provenance and peer review:** Unsolicited manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05347098

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** South Korea

**Author's Country/Territory:** China

**Manuscript submission date:** 2022-06-29

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-07-02 07:23

**Reviewer performed review:** 2022-07-11 11:54

**Review time:** 9 Days and 4 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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### **SPECIFIC COMMENTS TO AUTHORS**

Thank you for submitting your fruitful manuscript in WJG. This study applies the ensemble method to improve the polyp detection segmentation accuracy in real world CE images. There are several important things that need to be made clear. Please describe in detail how many images were used for training, validation, and test sets, respectively, in your dataset and public dataset. Are polyps present in all images used? If the ultimate purpose of the study is to recognize the polyp of CE, it is thought that the test should be performed with the CE image. Please describe the clinical significance of the increase in polyp detection segmentation accuracy derived from the results. When the ensemble model is applied, it is estimated that the time required for analysis is longer than that of a single model. Please describe if the ensemble model has any disadvantages other than increasing the recognition rate.



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**Reviewer's code:** 03905597

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Doctor

**Reviewer's Country/Territory:** Japan

**Author's Country/Territory:** China

**Manuscript submission date:** 2022-06-29

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**Reviewer accepted review:** 2022-07-19 22:42

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<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No



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### **SPECIFIC COMMENTS TO AUTHORS**

This is an interesting paper but, it contains some problems and is not acceptable for publication in World J Gastroenterol in the present form. Major points Discussion is too short. Please discuss the strengths and limitations more in detail. Minor points 1) Introduction: OK, but please explain why the authors focused on GI polyps only, not on a wide range of GI diseases. 2) Materials and Methods: This paper is the first combined study of semantic segmentation and ensemble learning to analyze CE images with artifacts. Thus, please describe ensemble learning used in this study more in detail. Custom-built model? 3) Discussion: Please review briefly the limitations of previous A.I. studies without ensemble learning and discuss future direction for A.I. application for CE imaging. Please discuss about the false negative case. Please discuss “cost” and “complexity” of the system used in this study, because the A.I. calculation algorithm require specialized software packages, leading to increased costs, and the workflow of image acquisition, segmentation, feature extraction, exploratory analysis and modeling makes the system extremely complex.