

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Gastrointestinal Oncology*

**Manuscript NO:** 64980

**Title:** Scoping out the future: The application of artificial intelligence to gastrointestinal endoscopy

**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05448724

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

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

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-02-26

**Reviewer chosen by:** Ya-Juan Ma

**Reviewer accepted review:** 2021-03-22 14:16

**Reviewer performed review:** 2021-03-28 18:36

**Review time:** 6 Days and 4 Hours

Scientific quality	<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 Grade E: Do not publish
Language quality	<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
Conclusion	<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
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<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

## SPECIFIC COMMENTS TO AUTHORS

Comments and Suggestions: 1. It is better that the authors include and compare CNN architectures of recent studies related to gastrointestinal malignancies. 2. The authors must include the detail of datasets which commonly used to train the deep learning-based models in recent articles (present in Table). 3. The authors can write one paragraph about the standard endoscopy vs capsule endoscopy. 4. Which performance evaluation metrics are usually utilizing in gastrointestinal abnormalities studies? 5. In this article, the focus of the authors on traditional machine learning algorithm such as SVM, it is suggested that the authors also include the recent articles related to human gastrointestinal tract abnormalities based on DCNN such as Imran Iqbal et al. and Timothy Cogan et al. 6. The authors should mention which pre-processing and data augmentation operations are commonly applied in recent studies? 7. Which criteria in recent researches used to consider their result a TP (true positive) or FP (false positive)? Such as more than 50% IoU (Intersection over Union) between the GT (ground truth) and prediction is considering a TP. 8. Traditionally, "random" biopsies were obtained with a relatively low diagnostic yield as lesions concerning for neoplasia in patients with Barrett's esophagus (BE) are often challenging to identify (figure 3). There are only two figures in the manuscript. There is no figure 3. 9. Some of the sentences are too long which need to short enough to convey proper meaning. 10. I would suggest that the authors must add the comparison and detail of "number of filters", "number of parameters" etc. of recent deep learning-based methods such as. Taruna Agrawal et al., Konstantin Pogorelov et al., Timothy Cogan et al. and Imran Iqbal et al. methods for human gastrointestinal tract abnormalities.

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**Peer-review model:** Single blind

**Reviewer's code:** 05758135

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

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

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-02-26

**Reviewer chosen by:** Ya-Juan Ma

**Reviewer accepted review:** 2021-03-15 07:04

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Scientific quality	<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
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

This manuscript is a review of the use of AI in the diagnosis of gastrointestinal diseases. This manuscript limits the review to diagnosis using the following devices: Colonoscopy, Esophagogastroduodenoscopy (EGD), Capsule Endoscopy (CE), and Endoscopic Ultrasound. Each of these is summarized along with related techniques. The number of papers referred to is also sufficient. However, there is no mention of the limitation of the subject. I think the scope of the title is too broad. In order to promote readers' understanding, the title should be changed to "Use of AI in diagnosis using endoscopes" since the target devices are limited. In the text, there is little discussion on whether AI should be used to "make a diagnosis" or "support diagnosis". Although the policy may differ from country to country, it is necessary to discuss the issue including the opinions of clinical practice and ethical aspects. There are many objective evaluations, but I would like to see a description of the advantages and disadvantages of AI when compared to skilled doctors. Figure 3 is shown in the text, but the figure is not attached. The following is a detailed point. In the sentence referring to reference 39, there is a reference to Rie et.al. Is this the first name of the first author? In the paragraph before Endoscopic Ultrasound, the last sentence ends with "," instead of ".".

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**Reviewer's code:** 05282786

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**Academic degree:** MD, PhD

**Professional title:** Associate Professor, Consultant Physician-Scientist

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

**Author's Country/Territory:** United States

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**Reviewer chosen by:** Ya-Juan Ma

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**Reviewer performed review:** 2021-04-12 17:31

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Scientific quality	[ <input checked="" type="radio"/> ] Grade A: Excellent [ <input type="radio"/> ] Grade B: Very good [ <input type="radio"/> ] Grade C: Good [ <input type="radio"/> ] Grade D: Fair [ <input type="radio"/> ] Grade E: Do not publish
Language quality	[ <input checked="" type="radio"/> ] Grade A: Priority publishing [ <input type="radio"/> ] Grade B: Minor language polishing [ <input type="radio"/> ] Grade C: A great deal of language polishing [ <input type="radio"/> ] Grade D: Rejection
Conclusion	[ <input checked="" type="radio"/> ] Accept (High priority) [ <input type="radio"/> ] Accept (General priority) [ <input type="radio"/> ] Minor revision [ <input type="radio"/> ] Major revision [ <input type="radio"/> ] Rejection
Re-review	[ <input checked="" type="radio"/> ] Yes [ <input type="radio"/> ] 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**

The topic describe in the article is very interesting and very well documented. For sure AI represents a good help in our practice especially in early detection of gastrointestinal neoplasia and I sure hope it will represent the near future.