PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 66030

Title: Artificial intelligence-assisted colonoscopy: A review of current state of practice and research

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05462117

Position: Peer Reviewer

Academic degree: MBBS

Professional title: Doctor

Reviewer's Country/Territory: United States

Author's Country/Territory: Canada

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Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-06-24 05:02

Reviewer performed review: 2021-07-01 04:12

Review time: 6 Days and 23 Hours

Scientific quality	[Y] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[Y] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

Peer-reviewer statements	Peer-Review: [ ] Anonymous [Y] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

This is a very well written review article on the available AI technology for colonosocpy, and it adequately addresses the intricacies and nuances related to AI integration in real world practice, that many comparative studies often gloss over. The authors make good reference to the ASGE PIVI document on thresholds for adopting real-time endoscopic assessment of the histology of diminutive colorectal polyps throughtout the report, and appropriately set it as a bench mark for assessment of AI systems. The article breaks down and details the mechanics underlying these AI systems, which should be mandatory learning for all physicians anticipating use of this technology in the future. The language used through out the report is good, save for a couple typos. Suggestions for areas of improvement/clarification as below: . At times the authors mention statistical and machine learning terms, which may not be common place and familiar with the intended audience of this journal. Its is suggested that these terms are followed by a brief explanation, apt for the lay physician. These include; Deep neural network (DNN), Bag-of-features, and model overfitting.   The authors mention that the study by Klare et al, asessing the CADe system, used "colonoscopy videos". However, the researchers were employing real time CADe technology during live colonoscopies and this was blinded from the sight of the endoscopist. Prior studies have used pre-recorded videos of colonoscopies.   When describing the CADx system, the authors illustrate how in a trial, using nine polyp features significantly improved the system's performance compared to three features, and how this performance was comparable between CADx and experts but superior to non-experts. Please define experts and non-experts in this context.   In the paragraph following the subheading of Metadata - it is not clear what

message the authors are trying to convey? Do they mean that for most studies the meta data is not available which is why it has not been assessed?   Addition of pictures/videos of the AI technology in question would elevate the rank of the article Consider mentioning the CAD system (CADe and CADx) in the abstract as it is the meat of the article.