Dear Editor,

We appreciate the opportunity to revise and resubmit our paper titled “Artificial Intelligence in Colonoscopy.” We want to thank the editor and reviewers for taking the time to make insightful critiques and recommendations that will ultimately strengthen our paper. A table summarizing the editor’s and reviewers’ comments, our response to the comments and the location of changes made in the manuscript is attached below.

Thank you for your consideration.

Sincerely,

Rishi Pawa MD, FACG

Reviewer Comments	Author Response
1. Although all existing evidences of computer-aided detection of colorectal polyp from clinical trials were discussed, it may provide a more comprehensive description on the current situation of AI-assisted polyp detection by adding the recently published meta-analysis.	We have added a paragraph with both meta-analyses. The revision text reads as follows: "Recent meta-analyses have concluded that CADe was accurate at detecting adenomas [17, 18]. Barua et al. included 5 RCTs (with a total of 4311 patients) and concluded the ADR was significantly better using CADe with colonoscopy (29.6%) than colonoscopy alone (19.3%), with a false positive alarm mean of 11.2% [17]. Lui et al. analyzed 6 studies that used CADe and found the accuracy of CADe was 90% with sensitivity and specificity of 95% and 88% respectively [18]. In both studies, colonoscopy with CADe improved detection of diminutive adenomas [17, 18]."
2. Limitations of the AI-assisted colorectal polyp detection technology were not discussed. For example, the low ADR (8-20%) in the control group in some of the included clinical trials and potential high false positive rate. Hassan, et al reported a mean 27.3% false positive activations per colonoscopy of a randomized controlled trial (RCT) on CADe performance. Hassan C, Badalamenti M, Maselli R, Correale L, Iannone A, Radaelli F, Rondonotti E, Ferrara E, Spadaccini M, Alkandari A, Fugazza A, Anderloni A, Galtieri PA, Pellegatta G, Carrara S, Di Leo M, Craviotto V, Lamonaca L, Lorenzetti R, Andrealli A, Antonelli G, Wallace M, Sharma P, Rösch T, Repici A. Computer-aided detection-assisted colonoscopy: classification and relevance of false positives. Gastrointest Endosc. 2020 Oct;92(4):900-904.e4. doi: 10.1016/j.gie.2020.06.021. Epub 2020 Jun 16. PMID: 32561410.	As suggested by the reviewer, we have added a paragraph about the limitations of CADe. The revision text reads as follows: "A significant limitation of CADe technology is the potential to have high false positive alarm rates. Even though Wang et al. [5] and Liu et al. [15] had low rates, Hassan et al. reported a total of 1092 false positive alarms, which averaged 27.3 per colonoscopy [19]. Also, many of the studies assessing CADe had control groups with low ADRs between 8-23% [5, 13, 15, 16], which is below the recommended target ADR of ≥25% [3].

3. It may be worthwhile to add the information of whether the AI system mentioned was regulatory approved and available on market to the summary tables.	On our review of the current literature, the framework for regulatory approval in artificial intelligence varies based on local and national laws/guidelines and are often difficult to find especially when the work is performed outside the United States. Furthermore, information on market availability was not readily found for the majority of the studies included in our paper and many technologies mentioned are in early stages of development. Given the paucity of data, we did not include this information.
4. Typos: Page 1 line 1. “in” should be “is” Page 10 line 10 “diminuitive” should be “diminutive”	The revision text reads as follows: “Colorectal cancer (CRC) is the third most common cancer and the second leading cause of cancer related death in men and women in the United States.” The revision text reads as follows on page 10 lines 28-30: “With the ability to identify smaller diminutive lesions as non-cancerous, these techniques also offer time and resource savings.”