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PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 80458

Title: Commentary on clinical impact of AI-based solutions to imaging of the pancreas and liver

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06253034
Position: Peer Reviewer
Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Portugal

Author's Country/Territory: Spain

Manuscript submission date: 2022-09-28

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-09-28 10:38

Reviewer performed review: 2022-10-06 08:32

Review time: 7 Days and 21 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish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	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

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

SPECIFIC COMMENTS TO AUTHORS

This is paper presents a good overview of AI research on pancreatic and liver imaging. The literature analysis is lacking in some applications. There are some shortcommings in the definition of concepts on the Introduction. Specific comments: 1. The definition of machine learning in lines 118-121 is not clear. Machine learning is not a method to improve performance of algorithms, it is a subset of algorithms that can learn how to perform a task directly from the training data. The authors refer that ML doesn't require explicit programming to perform a given task but than contradict this information in line 122, where it is mentioned that ML can operate based on instructions indicated by the developer. Please re-write this section to clear the definition of ML as a data-driven approach. 2. The authors introduce GANs before introducing ANNs, which doesn't make sense since a GAN is a ANN. 3. CNNs are not necessarily a more complex type of ANN as is stated in line 145, but rather a different type of ANN specially designed for computer vision tasks. 4. The authors refer that the U-Net is an example of a fully convolutional neural network, defined as a type o ANN that only performs the convolution step. This is not correct since the U-Net architecture also includes pooling operations. 5. A reference is necessary for the paragraph about DL (lines 154-161) 6. The nnU-Net publication must be included in the section about image segmentation since it is the current state-of-the-art. 7. The authors miss some important publications for diagnosis at Pancreas CT, namely the following recent papers: a. Park HJ, Shin K, You MW, Kyung SG, Kim SY, Park SH, Byun JH, Kim N, Kim HJ. Deep Learning-based Detection of Solid and Cystic Pancreatic Neoplasms at Contrast-enhanced CT. Radiology. 2022 Aug 23:220171. doi: 10.1148/radiol.220171. Epub ahead of print. PMID: 35997607. b.

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Chen PT, Wu T, Wang P, Chang D, Liu KL, Wu MS, Roth HR, Lee PC, Liao WC, Wang W. Pancreatic Cancer Detection on CT Scans with Deep Learning: A Nationwide Population-based Study. Radiology. 2022 Sep 13:220152. doi: 10.1148/radiol.220152. Epub ahead of print. PMID: 36098642. c. Alves N, Schuurmans M, Litjens G, Bosma JS, Hermans J, Huisman H. Fully Automatic Deep Learning Framework for Pancreatic Ductal Adenocarcinoma Detection on Computed Tomography. Cancers (Basel). 2022 Jan 13;14(2):376. doi: 10.3390/cancers14020376. PMID: 35053538; PMCID: PMC8774174.

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Reviewer's code: 03299110
Position: Editorial Board
Academic degree: MD, PhD
Professional title: Associate Professor, Doctor, Teacher
Reviewer's Country/Territory: China
Author's Country/Territory: Spain

Manuscript submission date: 2022-09-28
Reviewer chosen by: Dong-Mei Wang
Reviewer accepted review: 2022-11-27 03:04
Reviewer performed review: 2022-12-07 15:45
Review time: 10 Days and 12 Hours

Scientific quality	[ ] Grade A: Excellent [Y] 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	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No

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

SPECIFIC COMMENTS TO AUTHORS

This review summarizes the current evidence on the application of AI to hepatic and pancreatic radiology. Also, the authors discuss the challenges and future directions of clinical application of AI in liver and pancreas. It is a good review, but I believe this paper is too long to read. Please revise it and summarize some contents.

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Reviewer's code: 05257465
Position: Editorial Board
Academic degree: MS

Professional title: Associate Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Spain

Manuscript submission date: 2022-09-28

Reviewer chosen by: Dong-Mei Wang

Reviewer accepted review: 2022-12-02 06:20

Reviewer performed review: 2022-12-09 13:29

Review time: 7 Days and 7 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
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Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Title: Commentary on clinical impact of AI-based solutions to imaging of the pancreas and liver Manuscript ID: 80458 This review article is a very comprehensive summary of the liver and pancreas it the field of AI diagnosis, introduced the principle of AI, summarized the imaging method, tumor segmentation, AI applications. The challenges and future directions of clinical application of AI methods was also discussed in the paper. All in all, this is a good review article and it is worth publishing.