



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 56556

Title: Machine learning for diagnosis of coronary artery disease in CT angiography: A survey

Reviewer's code: 00505382

Position: Peer Reviewer

Academic degree: MD

Professional title: Full Professor, Professor, Surgeon

Reviewer's Country/Territory: Italy

Author's Country/Territory: China

Manuscript submission date: 2020-05-07

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2020-05-21 09:53

Reviewer performed review: 2020-05-21 15:21

Review time: 5 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 Grade E: Do not publish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
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
https://www.wjgnet.com

SPECIFIC COMMENTS TO AUTHORS

- methods should be fully stated and described in a separate paragraph. - each section (coronary plaque detection, vulnerable plaque identification, coronary stenosis assessment) should be accompanied by a table summarizing the results of the literature, discussing results and pros & cons for each technique. - a take-home message should be presented in a figure. - in perspectives, bullet points should be replaced with a more fluent discussion. - in conclusion, authors state that they "have systematically surveyed". This is not true as this is not a systematic review. Systematic review should follow PRISMA guidelines. Authors have to decide whether revising this article into a systematic review or a conventional review. methods and conclusions should be revised accordingly.



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 56556

Title: Machine learning for diagnosis of coronary artery disease in CT angiography: A survey

Reviewer's code: 00397579

Position: Editorial Board

Academic degree: FACC, MD, PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: United States

Author's Country/Territory: China

Manuscript submission date: 2020-05-07

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2020-05-22 01:52

Reviewer performed review: 2020-05-22 03:23

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input 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 checked="" type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	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

Zhao et al summarized currently existed machine learning algorithms in analyzing coronary CT angiography images and diagnose coronary artery disease. The authors focused on the three main concerns of assessment coronary atherosclerosis and CAD, namely extracting coronary artery (anatomy), plaque features, and stenosis (anatomic or hemodynamic significance). As an interventional cardiologist, I'm very impressed about how much machine learning is potentially able to do to provide somewhat automated analysis of CTA data. This review is more focused on technique aspects of the machine learning field. The manuscript is well written, and reads well. I consider it could be good contribution to the literature. In author contributions: "Fan S performed data accusation....", was "accusation" a typo? If the authors could provide a summary figure or table of the surveyed algorithms, it will illustrate the information better.



PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Medical Imaging

Manuscript NO: 56556

Title: Machine learning for diagnosis of coronary artery disease in CT angiography: A survey

Reviewer's code: 00257390

Position: Editorial Board

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: Germany

Author's Country/Territory: China

Manuscript submission date: 2020-05-07

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2020-05-21 12:19

Reviewer performed review: 2020-05-23 19:19

Review time: 2 Days and 6 Hours

Scientific quality	<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
Language quality	<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
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer statements	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

This is a mini-review written by Zhao et al, which aims at summarizing the usefulness of machine learning algorithms for the diagnosis of coronary artery disease using coronary computed tomography angiography. I am not sure how this manuscript adds knowledge to the current literature. Table and Figures are completely absent. Minor points: Examination of cardiac CT is not only performed by radiologists. Use the word non-calcified rather than mixed plaque.