

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Cardiology*

**Manuscript NO:** 81836

**Title:** Prediction of permanent pacemaker implantation after transcatheter aortic valve replacement: the role of Machine learning.

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

**Peer-review model:** Single blind

**Reviewer's code:** 05207387

**Position:** Editorial Board

**Academic degree:** DSc, PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** South Korea

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

**Manuscript submission date:** 2022-11-25

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-11-27 02:18

**Reviewer performed review:** 2022-11-27 02:25

**Review time:** 1 Hour

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 Grade E: Do not publish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 checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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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

#### **SPECIFIC COMMENTS TO AUTHORS**

Thanks for recommending me as a reviewer. In this study, authors were used supervised ML with the random forest machine learning model to predict pre-procedural risk for PPM post-TAVR at 30 days and 1 year. If the authors complete minor revisions, the quality of the study will be further improved. 1. pg 6: "The model was optimized using 5 fold cross-validation repeated 10 times." - I don't understand why you repeated 5-fold cross-validation 10 times. If you describe this sentence more specifically, it will help readers understand. 2. Authors should describe the fine tuning used in the random forest model in more detail.

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**Peer-review model:** Single blind

**Reviewer's code:** 05327699

**Position:** Editorial Board

**Academic degree:** MBBS, MNAMS, MS

**Professional title:** Additional Professor

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

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

**Manuscript submission date:** 2022-11-25

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-12-01 07:03

**Reviewer performed review:** 2022-12-01 09:07

**Review time:** 2 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
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<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

#### **SPECIFIC COMMENTS TO AUTHORS**

Dear Author, 1. Kindly mention full forms before writing the short - forms, like TTE , RF etc. 2. Add details of your ML - Algorithm used and how it's decision tree structure works ? 3. Add a Table comparing sensitivity and specificity of your AI Model vs other Models . 4. Improve grammar and language . 5. What this study adds to already available literature is not mentioned ? 6. Names of all variables is missing from your manuscript . 7. How the Images or variables were graded and or annotated and by whom ? Thanks