Review Form 2

Book Name:	**Current Approaches in Engineering Research and Technology**
Manuscript Number:	**Ms_BPR_2557**
Title of the Manuscript:	**Machine-Learning-Based Compact Modeling for Sub-3-nm-Node Emerging Transistors**
Type of the Article	**Book Chapter**

PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback***(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	The proposed ANN-based compact model simulates device characteristics and circuit performances with high accuracy and speed. This is the first time that a machine learning (ML)-based compact model has been demonstrated to be several times faster than the existing compact model.	
Is the title of the article suitable? (If not please suggest an alternative title)	Yes	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	Yes, this article abstract is comprehensive	
Are subsections and structure of the manuscript appropriate?	Yes, this article structure is appropriate	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The accuracy of the proposed ANN-based compact model was also demonstrated through simulations of XOR, ring oscillators, and SRAM circuits. In addition, the physics-augmented loss function can be used to reduce the error in the desired operation region. The developed ANN-based compact modeling framework is being expanded and applied to a negative-capacitance NSFET. In addition, ANN-based statistical analyses will be performed to reflect global and local variations.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	**Need additional recent papers as references.**	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	Article English language is good	
Optional/Generalcomments	Can be Accepted	

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PART 2:

	Reviewer's comment	**Author's comment***(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**P.Veera Manikandan**
Department, University & Country	**Dhanalakshmi Srinivasan College of Engineering and Technology, India**