Review Form 3

Journal Name:	**Asian Research Journal of Mathematics**
Manuscript Number:	**Ms_ARJOM_127478**
Title of the Manuscript:	**Prediction Of Air Quality Index Based On Support Vector Machine And Improved Butterfly Optimization Algorithm**
Type of the Article	**Computer Science-disipline**

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 manuscript titled "Prediction of Air Quality Index Based on Support Vector Machine and Improved Butterfly Optimization Algorithm" is significant for the scientific community due to its innovative approach to predicting air quality, a critical issue affecting public health and the environment, health research. I appreciate the manuscript's potential to contribute to real-time forecasting models, though the complexity of the proposed algorithm may require further validation and comparisons with other optimization techniques to establish its robustness and generalizability across different regions.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	**Yes the title is suitable with the work**	
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, It is concise, no addition required**	
Are subsections and structure of the manuscript appropriate?	**yes**	
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 manuscript presents a scientifically robust and technically sound approach by combining the Support Vector Machine (SVM) with the Improved Butterfly Optimization Algorithm (IBOA) for air quality prediction..The introduction of the IBOA to optimize the SVM's parameters enhances the model's predictive accuracy, which is a valid and effective method for improving the performance of machine learning algorithms. The iterative procedure outlined for parameter tuning and the use of Mean Squared Error (MSE) and Mean Absolute Error (MAE) as fitness functions ensures that the model is both methodologically sound and evaluative in terms of performance. Overall, the manuscript demonstrates a strong scientific approach by integrating established machine learning techniques with novel optimization strategies, ensuring that the proposed model is both technically advanced and applicable for real-world air quality prediction scenarios.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	**Yes but it is advisable to include year 24 papers**	

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	ok	
Optional/General comments		

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:	**Arul Leena Rose P J**
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