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REVIEWER'S REPORT

Manuscript No.: IJAR- 52907 Date: 21-07-2025

Title:

"Analyzing Supervised Learning Models for Intrusion Detection: Towards Robust Wireless Sensor Network"

Rating	Excel.	Good	Fair	Poor
Originality			YES	
Techn. Quality			YES	
Clarity		YES		
Significance		YES		

Recommendation:
Accept as it is …… **YES** ……
Accept after minor revision**…**
Accept after major revision ……
Do not accept (*Reasons below*) **……**

Reviewer Name: Gulnawaz Gani

Comments for Publication

This paper makes a contribution by quantitatively comparing various ML models for WSN intrusion detection, emphasizing the high performance of Decision Tree and hybrid RF-XGBoost..

Reviewer's Comment / Report

- This paper provides a valuable comparative analysis of supervised and semi-supervised machine learning models for intrusion detection in WSNs using the NSL-KDD dataset.
- While the paper highlights impressive detection rates for Decision Tree and hybrid RF-XGBoost models, it could benefit from a more in-depth discussion on the computational complexity and memory footprint of these models, especially for resource-constrained WSN environments.
- Additionally, a broader evaluation across diverse WSN attack scenarios and datasets would strengthen the generalizability of the findings. The discussion on semi-supervised approaches, while promising, lacks detailed quantitative results, making it difficult to fully assess its practical utility.
- Despite these points, the work offers a clear comparison and reinforces the potential of lightweight models for WSN security.
- This work is structured and contributes meaningfully to the field; it is recommended for acceptance.