



REVIEWER'S REPORT

Manuscript No.: IJAR-50517

Date: 05-03-2025

Title: A COMPARATIVE STUDY OF SQL INJECTION DETECTION AND PREVENTION MACHINE LEARNING ALGORITHMS

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

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

Reviewer's Name: Mir Tanveer

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Introduction

The introduction effectively highlights the increasing threat posed by **SQL injection (SQLi) attacks** and the need for more **sophisticated detection and prevention mechanisms**. The explanation of SQLi as an attack that manipulates SQL queries to gain unauthorized access to databases is clear and well-supported by relevant literature. The motivation for exploring **machine learning (ML) approaches** as an enhancement to traditional security measures is well articulated.

The discussion on the **limitations of conventional techniques** such as **input validation and parameterized queries** effectively sets the stage for introducing **ML-based approaches**. The introduction also successfully emphasizes the **evolving nature of SQLi threats** and the need for

REVIEWER'S REPORT

adaptable, data-driven solutions. References to **previous research studies** provide a strong foundation for understanding why **ML algorithms** are being considered in this study.

Problem Statement

The problem statement is **well-structured and clearly defines the research gaps** in existing studies on SQLi detection and prevention. The **prevalence and impact of SQLi attacks** are effectively communicated, and the **limitations of traditional security methods** are well-explained. The problem statement also highlights the lack of **comprehensive comparative evaluations** of different ML algorithms, particularly in terms of **effectiveness, accuracy, and adaptability**.

The study's focus on addressing gaps in existing research is well-supported by references to various studies. The inclusion of discussions on **Random Forest, LSTM networks, and Decision Trees** provides insights into their respective strengths and weaknesses, helping frame the rationale for a **comparative analysis**. The mention of **ensemble and hybrid models** further strengthens the discussion by recognizing potential improvements that have not been thoroughly explored.

Overall Evaluation

The research is well-motivated, and the **literature citations provide strong academic grounding**. The **importance of ML-based SQLi detection methods** is effectively communicated, and the research gaps are clearly identified. The introduction and problem statement **logically flow** and provide a solid foundation for the study. The **technical depth, clarity, and relevance of sources** enhance the credibility of the research.