## INTRODUCTION

SQL Injection is a type of cyber-attack that has been around for a long time. It involves injecting malicious SQL code into an application's input fields, which allows attackers to gain unauthorized access to the application's database. This can lead to severe consequences, such as data breaches and system compromises. In recent years, Artificial Intelligence (AI) and machine learning have become popular in various fields, including cybersecurity. The idea of using AI to predict SQL Injection attacks emerged to bolster security measures and counter sophisticated attack techniques. By developing AI models that can analyze application input data, we can identify patterns that indicate the presence of an SQL Injection attack. The traditional methods used to prevent SQL Injection attacks rely on simple rule-based approaches or static pattern matching. However, these methods can sometimes be bypassed by well-crafted attacks. This is where AI-based prediction of SQL Injection attacks becomes essential. We need AI-based prediction because cyber attackers continuously evolve their methods, making it challenging to rely solely on traditional approaches.

AI-powered systems can process large amounts of data, discover hidden patterns, and adapt to new attack techniques, making them more effective in identifying SQL Injection attacks. The significance of AI-based prediction lies in its ability to enhance detection accuracy. AI models can learn from historical attack data and identify even subtle patterns that might go unnoticed by traditional methods. By doing so, they can reduce false positives, which helps minimize disruptions to legitimate user activities. Additionally, AI can serve as a proactive defense mechanism, continuously monitoring and protecting applications from potential threats, including novel and previously unseen SQL Injection attacks. Artificial Intelligence, particularly machine learning, has shown promise in various cybersecurity applications due to its ability to analyze vast amounts of data, detect patterns, and make predictions.