

Intrusion Data Detection

Enhanced Intrusion Detection
System Using String Matching,
Sorting, and Generative
Adversarial Networks



Cyber Squad

Team Members

Ramya S

Sangeetha J

Vijay Ragav R



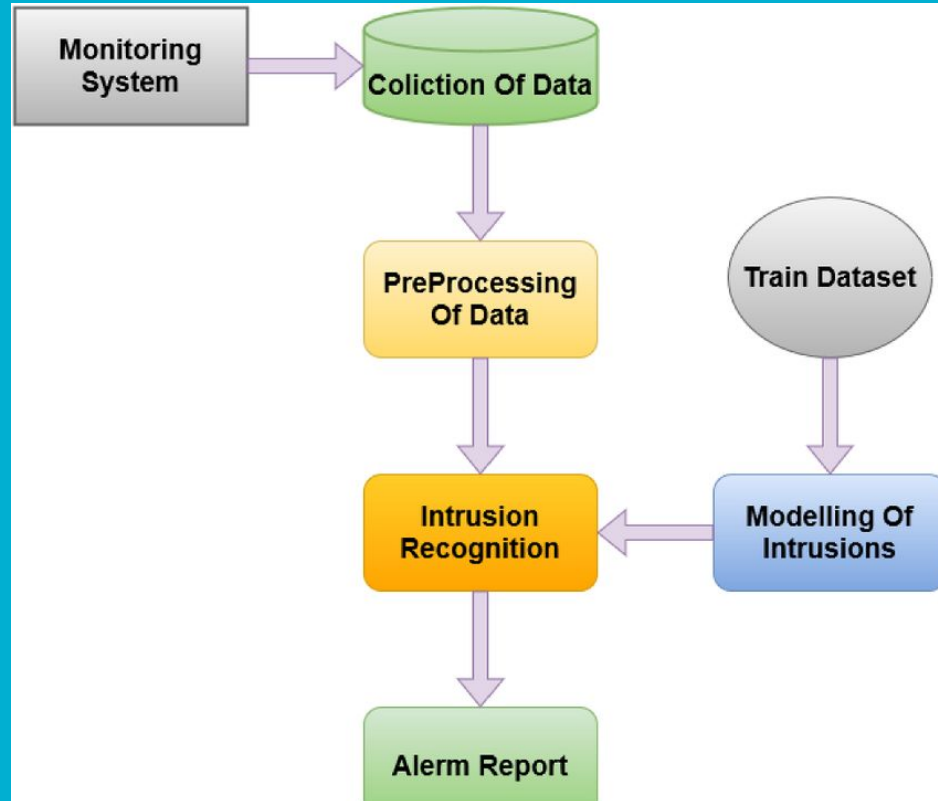
Abstract

- Intrusion detection is a critical task in cybersecurity, aiming to identify and prevent unauthorized access to computer systems.
- Traditional methods, such as k-nearest neighbor, SVM, and z-score analysis, often suffer from high data volume requirements, complex baseline setup, costly implementation, and high resource demand.
- This project proposes a novel approach using string matching, sorting, and generative adversarial networks (GANs) to enhance intrusion detection accuracy and efficiency.

Problem Statement

- Intrusion detection faces significant challenges due to the increasing complexity of cyberattacks and the limitations of existing methods.
- Traditional techniques often struggle with false positives and false negatives, leading to compromised security and wasted resources.
- The need for a more accurate and efficient intrusion detection system is paramount to protect critical infrastructure and sensitive data.

Flowchart



Objective

- To develop an enhanced intrusion detection system that addresses the limitations of traditional methods.
- To improve the accuracy and efficiency of intrusion detection by leveraging string matching, sorting, and generative adversarial networks.
- To reduce the false positive and false negative rates of the system.
- To enhance the scalability and adaptability of the system to handle evolving cyber threats.
- To provide a more reliable and cost-effective solution for intrusion detection.

Existing System

Algorithms: K-Nearest Neighbors, Support Vector Machine, Z-Score Analysis

Limitations:

High data volume requirement

Complex baseline setup

Costly implementation

High resource demand

Proposed System

Approach: String matching, sorting, Generative Adversarial Networks (GANs)

Expected Benefits:

Improved accuracy

Enhanced efficiency

Advanced learning capabilities



Thank you