**ABSTRACT**

**DDOS ATTACK DETECTION USING**

**ENSEMBLED BASED APPROACH**

This project is titledImproved Grey Wolf Optimization Algorithm for DDOS Attack Detection Using Ensembled Based Approach**.** The Distributed Denial of Service (DDOS) attack is a deliberate attempt to make an application or website unavailable to users such as flooding it with network traffic. The multiple computer systems are attack a target place and cause a denial of service for the users of the target resource. This attack causes harmful server outages and excessive stress on IT professionals for bringing the resources back to online. To detect the attack, we have to analysis three important phases available. They are optimal feature selection, classification and feature extraction. By using optimization algorithms, to optimally select the features of obtained feature sets.

In this research, Random Forest is a popular machine learning algorithm used for classification and regression tasks. It's an ensemble learning method that operates by constructing a multitude of decision trees during training and outputs the class that is the mode of the classes (classification) or mean prediction (regression) of the individual trees.

**Keywords:** Distributed Denial of Service (DDOS), Optimization Techniques

**Algorithms used:** SVM model, KNN model, Random Forest Algorithm.

Software Tool : Google COLAB

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