

## **INTRUSION DETECTION SYSTEM TO MITIGATE CYBER ATTACKS USING MACHINE LEARNING**

**Bhavika G. S<sup>1</sup> & Jagadeesh Sai D<sup>2</sup>**

<sup>1</sup>Research Scholar, Department of Information Science, Ramaiah Institute of Technology, Bengaluru, Karnataka, India

<sup>2</sup>Assistant Professor, Department of Information Science, Ramaiah Institute of Technology, Bengaluru, Karnataka, India

### **ABSTRACT**

Cyber attacks which are malicious and deliberate are one of the major ultimatums that hit the business, organizations and institutions every day. Despite of having various cyber defense systems, Web Application Firewalls, intrusions are the common threats that exist till today. Intrusion detection systems are the new generation security technologies and they detect the known attacks and also the unknown after the system is affected by an attack. The need for predicting the detection accuracy of an attack is one of the major concerns. Here we propose an intrusion detection model that predicts the accuracy of attack detection and performance is evaluated on NSL-KDD, an effective benchmark dataset using machine learning technique.

**KEYWORDS:** Intrusion Prediction, Machine Learning, Cyber Attacks, Intrusion Detection Systems, Random Forest

---

### **Article History**

**Received: 03 Oct 2019 | Revised: 15 Oct 2019 | Accepted: 23 Oct 2019**

---