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A Study on Machine Learning Approaches for Intrusion Detection in Big Data Environments

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Abstract: *Finding malicious and dynamic network traffic that merely alters based on the network's properties is the primary goal of intrusion detection systems (IDS). One of the most active areas of development in computer network technology and security is the IDS approach. Various IDS forms have been produced using unique methodologies. The machine learning mechanism is one type of strategy that uses it. The data set known as KDD-99, along with its subclasses like denial of service (DOS), other forms of attacks, and the class without any kind of attack, are used in the suggested methodology's experiment. Different types of intrusion detection systems (IDS) have been developed based on machine learning techniques. These IDS further verify prospective features based on optimization in relation to the neural network classifier to detect and prevent different types of intrusions*

Keywords: Anomaly Detection, Scalability, Feature Extraction, Real-time Analysis