

# Detection of Distributed Denial of Service Attack in SDN using a Machine Learning Technique

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**Abstract:** *Software-defined network (SDN) is a network architecture that is used to build, and design the hardware components virtually. We can dynamically change the settings of network connections. In the traditional network, it's not possible to change dynamically, because it's a fixed connection. SDN is a good approach but still is vulnerable to DDoS attacks. The DDoS attack is managed on the internet. To prevent the DDoS attack, the machine learning algorithm can be used. The DDoS attack is the multiple collaborated systems that are used to target a particular server at the same time. In SDN control layer is in the center that links with the application and infrastructure layer, where the devices in the infrastructure layer are controlled by the software. In this paper, we propose a machine learning technique namely a Decision Tree to detect malicious traffic. Our test outcome shows that the Decision Tree detects whether the attack is safe or not.*

**Keywords:** SDN, attacks, DDoS, Decision Tree

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