

Timely Detection of DDoS Attacks with Dimensionality Reduction

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Abstract: Due to the interconnectedness and exponential proliferation of IoT devices, the technology is more susceptible to network attacks like Distributed Denial of Service (DDoS), which disrupt network resources. A growing threat to cloud computing systems is the Distributed Denial of Service (DDoS) attack, in which the attacker starts the attack by taking advantage of computers both inside and outside the cloud system. Real-time analysis of cloud network data is essential for preventing DDoS attacks. DDoS attacks interfere with the operation of IoT-connected apps and services by taking advantage of the constrained resources on IoT devices. The impacts of DDoS attacks, which seriously damage current systems, are thoroughly examined in this article in the context of the Internet of Things. One of the most common network attacks is the distributed denial-of-service attack (DDoS). DDoS assaults intensified due to the quick development of computer and communication technologies. Therefore, investigating the detection of a DDoS attack is crucial. A single technique cannot offer adequate security due to the variety of DDoS attack techniques.

Keywords: Botnet, Cloud Computing, Deep Learning, Distributed Denial-of-Service Attacks, IoT