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Intrusion Detection System : An Overview

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Abstract: *Intrusion Detection Systems (IDS) have become a cornerstone of network and system security in today's digital landscape. Their primary role is to detect and respond to suspicious or unauthorized activities, helping organizations protect critical infrastructure from potential cyber threats. With the growing complexity and volume of cyber-attacks, traditional IDS techniques are becoming less effective. As a result, there has been a notable shift toward leveraging advanced technologies, such as machine learning (ML) and artificial intelligence (AI), to improve IDS capabilities. This paper discusses the evolution of IDS, their challenges, the current state of the art, and future trends that aim to revolutionize how IDS function in the face of increasingly sophisticated threats.*

Keywords: Intrusion detection system, unauthorized activity, cyber-attacks, threats

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