

Research and development of a machine learning-based IDS system for detecting Probe attacks on LAN networks

Nguyen Huy Hieu

Abstract: In the context where cybersecurity is increasingly becoming a global focus, network probe attacks pose a serious threat to the security of local area networks (LANs). This study aims to address this issue through a machine learning-based intrusion detection system (IDS) to enhance the security protection level of LANs. The research adopts a combination of theoretical and experimental methods, first analyzing and understanding the characteristics and mechanisms of network probe attacks; then, designing and implementing monitoring models based on various machine learning algorithms, and testing their performance in a real environment. Through this research, we hope to provide effective defense measures for LAN security and promote development in related fields.

Keywords: Intrusion detection system, machine learning, network probing attack, local area network