

Special Issue

Machine Learning Techniques for Intelligent Intrusion Detection Systems

Message from the Guest Editors

Security and privacy of data is one of the major concerns in today's world, and intrusion detection systems (IDS) play an important role in cybersecurity. Industry 4.0 ecosystems are able to collect data, interconnect between each other, and process and make decisions without any human interaction. Machine learning techniques have been effectively used in multiple applications in intelligent intrusion detection systems, including network traffic analysis, access logs analysis, spam, and malware detection. However, current machine learning methods and their implementations are designed to handle tens of thousands of data yet have complexity issues with bigger datasets. Future intelligent intrusion detection systems require faster and more accurate machine learning models. Therefore, it is important to improve the existing and find proper ways of designing new machine learning methods suitable to detect indicators of compromise and find malicious connections even if the network traffic is encrypted. This Special Issue provides a platform for discussing new developments in the intersection of security and privacy with machine learning and deep learning.

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