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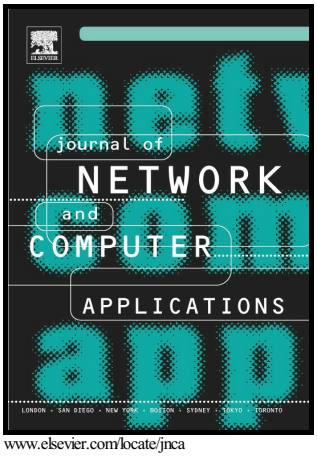

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A Survey of Intrusion Detection in Internet of Things

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Abstract

Internet of Things (IoT) is a new paradigm that integrates the Internet and physical objects belonging to different domains such as home automation, industrial process, human health and environmental monitoring. It deepens the presence of Internet-connected devices in our daily activities, bringing, in addition to many benefits, challenges related to security issues. For more than two decades, Intrusion Detection Systems (IDS) have been an important tool for the protection of networks and information systems. However, applying traditional IDS techniques to IoT is difficult due to its particular characteristics such as constrained-resource devices, specific protocol stacks, and standards. In this paper, we present a survey of IDS research efforts for IoT. Our objective is to identify leading trends, open issues, and future research possibilities. We classified the IDSs proposed in the literature according to the following attributes: detection method, IDS placement strategy, security threat and validation strategy. We also discussed the different possibilities for each attribute, detailing aspects of works that either propose specific IDS schemes for IoT or develop attack detection strategies for IoT threats that might be embedded in IDSs.

Keywords: Intrusion Detection System, Internet of Things, Cybersecurity

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