Analysis of cybersecurity threats in Industry 4.0: the case of intrusion detection

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Abstract. Nowadays, industrial control systems are experiencing a new revolution with the interconnection of the operational equipment with the Internet, and the introduction of cutting-edge technologies such as Cloud Computing or Big data within the organization. These and other technologies are paving the way to the Industry 4.0. However, the advent of these technologies, and the innovative services that are enabled by them, will also bring novel threats whose impact needs to be understood. As a result, this paper provides an analysis of the evolution of these cyber-security issues and the requirements that must be satisfied by intrusion detection defense mechanisms in this context.

Keywords: industry, control systems, internet, iot, cloud, big data, critical infrastructure, intrusion detection, ids