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Smart Sentry Cyber Threat Intelligence in Industrial IoT

V. Chandra Sekhar Reddy, T. Sri Rathna, V Pavan, K Naveen, SK Liyakat Ali

CSE Dept

ACE Engineering College, Hyderabad, India

Abstract: Industrial Internet of Things (IIoT) infrastructures have emerged as the backbones of current industrial processes but are under rising cyber threats as a result of heightened connectivity and complexity. SmartSentry, as introduced in this paper, is a Cyber Threat Intelligence (CTI) system that is aimed at identifying, analyzing, and counteracting cyber threats within IIoT environments through a combination of Random Forest, Autoencoder, and Multi-Layer Perceptron (MLP) algorithms. A comprehensive literature review from 2015 to 2025 investigates the latest developments, determines knowledge gaps, and guides the design of the SmartSentry system. We present the system architecture, algorithm definitions, and technical requirements and illustrate its ability to provide high detection, accuracy, scalability, and real- time protection.

Keywords: Industrial Internet of Things





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