

Driving Efficiency in Industry IoT: A Framework Powered by Intelligent Computing and Machine Learning

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Abstract: *The Industry Internet of Things (IIoT) represents a transformative paradigm in industrial settings, promising enhanced efficiency, productivity, and predictive maintenance capabilities. However, the effective utilization of IIoT requires robust frameworks that can handle vast amounts of data and extract actionable insights. In this paper, we propose a comprehensive framework for IIoT leveraging intelligent computing techniques, particularly machine learning (ML). Our framework aims to address key challenges in IIoT deployments, including data management, real-time analytics, and predictive maintenance. Through the integration of ML algorithms, we enable intelligent decision-making processes based on data-driven insights. We present a detailed discussion of the components and architecture of our proposed framework, highlighting its capabilities and advantages. Additionally, we provide case studies and experimental results to demonstrate the effectiveness and applicability of the framework in various industrial scenarios. Overall, our framework offers a scalable and adaptable solution for harnessing the full potential of IIoT in industrial environments.*

Keywords: Industry Internet of Things (IIoT), Intelligent Computing, Machine Learning, Framework, Predictive Maintenance, Real-time Analytics

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