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Comprehensive machine data acquisition through intelligent parameter identification and assignment

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Abstract

In today's highly competitive manufacturing environment, process data monitoring continues to be of high priority, but often relies on modern communication interfaces being provided by PLC manufacturers. This paper proposes an alternative approach in which data is acquired automatically from various PLC models through available interfaces. Multiple Machine Learning algorithms are incorporated to identify machine parameters, which are then assigned to appropriate machine information models. All functionalities can be provided by a dedicated hardware module or as software modules on IPCs. The proposed approach can be integrated into existing Industry 4.0 efforts to accelerate digitalization in challenging environments.

Keywords: Digital Manufacturing System, Identification, Machine Tool.