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Soggetti	Computational intelligence Computer engineering Computer networks Telecommunication Data mining Computational Intelligence Computer Engineering and Networks Communications Engineering, Networks Data Mining and Knowledge Discovery
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Nota di contenuto	Machine Learning for Enhanced Waste Quantity Reduction: Insights from the MONSOON Industry 4.0 Project -- Deduction of time-dependent machine tool characteristics by fuzzy-clustering -- Unsupervised Anomaly Detection in Production Lines -- A Random Forest Based Classifier for Error Prediction of Highly Individualized Products -- Web-based Machine Learning Platform for Condition-Monitoring -- Selection and Application of Machine Learning-Algorithms in Production Quality -- Which deep artificial neural network architecture to use for anomaly detection in Mobile Robots kinematic data -- GPU GEMM-Kernel Autotuning for scalable machine learners -- Process Control in a Press Hardening Production Line with

Numerous Process Variables and Quality Criteria -- A Process Model for Enhancing Digital Assistance in Knowledge-Based Maintenance -- Detection of Directed Connectivities in Dynamic Systems for Different Excitation Signals using Spectral Granger Causality -- Enabling Self-Diagnosis of Automation Devices through Industrial Analytics -- Making Industrial Analytics work for Factory Automation Applications -- Application of Reinforcement Learning in Production Planning and Control of Cyber Physical Production Systems -- LoRaWan for Smarter Management of Water Network: From metering to data analysis.

Sommario/riassunto

This Open Access proceedings presents new approaches to Machine Learning for Cyber Physical Systems, experiences and visions. It contains some selected papers from the international Conference ML4CPS – Machine Learning for Cyber Physical Systems, which was held in Karlsruhe, October 23-24, 2018. Cyber Physical Systems are characterized by their ability to adapt and to learn: They analyze their environment and, based on observations, they learn patterns, correlations and predictive models. Typical applications are condition monitoring, predictive maintenance, image processing and diagnosis. Machine Learning is the key technology for these developments. The Editors Prof. Dr.-Ing. Jürgen Beyerer is Professor at the Department for Interactive Real-Time Systems at the Karlsruhe Institute of Technology. In addition he manages the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB. Dr. Christian Kühnert is a senior researcher at the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB. His research interests are in the field of machine-learning, data-fusion and data-driven condition monitoring. Prof. Dr. Oliver Niggemann is Professor for Artificial Intelligence in Automation. His research interests are in the fields of machine learning and data analysis for Cyber-Physical Systems and in the fields of planning and diagnosis of distributed systems. He is a board member of the research institute inIT and deputy director at the Fraunhofer Application Center Industrial Automation INA located in Lemgo.
