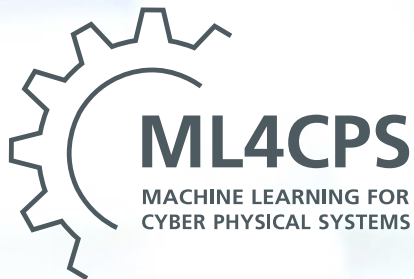


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Cyber Physical Systems and Industry 4.0 are characterized by their ability to adapt and to learn: They analyze their environment and learn patterns, correlations and predictive models based on the observations. Typical applications are condition monitoring, predictive maintenance, image processing and diagnosis. Machine Learning is the key technology for these developments. The conference offers a forum to present new approaches to Machine Learning for Cyber Physical Systems, to discuss experiences and to develop visions. Therefore, the conference addresses researchers and users from different industry sectors such as production technology, automation, automotive and telecommunication.

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Use of Deep Learning for Cyber Physical systems such as state-based modelling, time series, dimension reduction, clustering and classification or online learning.

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Description of Data for automatic model learning. Usage of technologies like, OPCUA, AML, ontology learning, knowledge representation, information extraction

Machine Learning for Security

Intrusion Detection, Network Data Analysis, Log Analysis, Malware Detection, Cyber Attack Classification, Zero-Day Detection, Adversarial ML, ML Testing

Ethics of Machine Learning

Legal usage of AI-based cyber physical systems. Planning of staff, ethical questions on decisions for employees, safe collaboration off humans and cyber physical systems, legal developments in Germany, Europe and Worldwide.

Machine Learning in Robotics

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ML on the Edge

Scalable Deep Learning services, distributed modelling, security through decentralized analysis, Decentralized deep learning, machine learning for resource-constrained devices, Distributed optimization

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