

Paper	Use Case	Algorithms
A Cyber-Physical Production System Framework of Smart CNC Machining Monitoring System	Wear and tear monitoring	Recurrent neural network, Convolutional neural network
A fog computing-based framework for process monitoring and prognosis in cyber-manufacturing	Anomaly detection and predictive maintenance	Several algorithms in cloud-based machine learning
A framework to guide the selection and configuration of machine-learning-based data analytics solutions in manufacturing	Fault diagnostics	Decision Tree, Gaussian Naive Bayes, and k-nearest neighbors from WEKA
A Generic Data Analytics System for Manufacturing Production	Wear and tear monitoring	Decision Tree, Apriori, k-means, ARIMA, Lasso, Random forest, Multi-layer perceptron
A Hybrid Machine Learning Approach for Predictive Maintenance in Smart Factories of the Future	Anomaly detection and predictive maintenance	n/a
A methodology for the semi-automatic generation of analytical models in manufacturing	Manufacturing monitoring, cost and power consumption	Neural network, Support Vector Machine, Gaussian Process Regression, Linear and Logistic regression, Decision Trees
A Predictive Maintenance System Design and Implementation for Intelligent Manufacturing	Anomaly detection and predictive maintenance	AutoML
A systematic development method for cyber-physical machine tools	Wear and tear monitoring	Artificial Neural Network, Fuzzy inference systems
An intelligent decision support system for production planning based on machine learning	Other/unclear	Regression Trees
An Intelligent Maintenance Planning Framework Prototype for Production Systems	Other/unclear	Decision Trees, Fuzzy inference systems
Architecture Model for a Holistic and Interoperable Digital Energy Management Platform	Manufacturing monitoring, cost and power consumption	n/a
CAAI—a cognitive architecture to introduce artificial intelligence in cyber-physical production systems	Manufacturing monitoring, cost and power consumption	AutoML
Cloud-based big data analytics platform using algorithm templates for the manufacturing industry	Wear and tear monitoring	Decision Tree, Ensemble Tree, Similarity-based prognostics, and other statistical algorithms
Cognitive analytics platform with AI solutions for anomaly detection	Anomaly detection and predictive maintenance	Decision Tree, Random Forest, Support Vector Machine, ANN, k-means, DBSCAN, Adaptive Boost, Majority voting, LSTM, Local Outlier Factor
Computer Vision Toolkit for Non-invasive Monitoring of Factory Floor Artifacts	Machine Vision	Optical Character Recognition

Data analysis and visualization framework in the manufacturing decision support system of COMPOSITION project	Other/unclear	Multi-layer perceptron networks, Recurrent neural networks and Long-short term memory networks
Developing a big data analytics platform for manufacturing systems: architecture, method, and implementation	Manufacturing monitoring, cost and power consumption	Support Vector Machine, Bayesian Network, Artificial Neural Network
Expert System for the Machine Learning Pipeline in Manufacturing	Wear and tear monitoring	Random Forest, Gradient Boosting
Integrating human cognition in cyber-physical systems: A multidimensional fuzzy pattern model with application to thermal spraying	Wear and tear monitoring	Multidimensional fuzzy pattern classification
KOI: An Architecture and Framework for Industrial and Academic Machine Learning Applications	Manufacturing monitoring, cost and power consumption	n/a
ML Pro: digital assistance system for interactive machine learning in production	Wear and tear monitoring	AutoML, Artificial Neural Network, Gradient Boosting, LGBM Classifier
MOMIS Dashboard: A Powerful Data Analytics Tool for Industry 4.0	Manufacturing monitoring, cost and power consumption	n/a
Patented intelligence: Cloning human decision models for Industry 4.0	Other/unclear	Deep Neural Network
Scalable Data Analytics from Predevelopment to Large Scale Manufacturing	Other/unclear	Random Forest
Supporting Data Analytics in Manufacturing with a Digital Assistant	Fault diagnostics	n/a
Towards a cognitive assistant supporting human operators in the Artificial Intelligence of Things	Machine Vision	Computer vision Software Libraries, Deep Reinforcement Learning
Towards a connected factory: Shop-floor data analytics in cyber-physical environments	Manufacturing monitoring, cost and power consumption	n/a
Towards big industrial data mining through explainable automated machine learning	Anomaly detection and predictive maintenance	Random Forest, k-Nearest Neighbor, AutoML
Validation of PERFoRM reference architecture demonstrating an application of data mining for predicting machine failure	Anomaly detection and predictive maintenance	Decision Trees