Call for Diploma Thesis

**Call for Diploma (Master) Thesis**

**Machine Learning Methods for Predictive Maintenance**

In Cooperation with Austrian Institute of Technology (AIT)

**Initial Situation and Problem Description:**

Maintenance costs represent the major part of total operating costs of manufacturing or production plants. A large fraction of all maintenance costs is wasted as a result of unnecessary or improperly carried out maintenance. A dominant reason for ineffective maintenance is missing knowledge of possible future breakdowns.

**Objectives:**

The goal of this master's thesis is to investigate and apply existing data science methods (time series analysis, machine learning) on real-world (sensor) data reflecting the state of machines and production processes and predict possible machine outages. This involves:

- Analysis of existing approaches in predictive and smart maintenance
- Experiments with real-world data
- Prototypical implementation demonstrating possible data-driven maintenance strategies

**Qualifications:**

- Demonstrated interest in Data Science
- Background in Computer Science / IT Management / Statistics / Mathematics
- Programming skills (e.g., Python, Scala)
- Basic experience with R / Octave, or Matlab
- Basic knowledge in machine learning / statistical modeling and analysis

**Start:** Jan/Feb 2018

**Contact Person (IMW/FhA):**

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