

# Artificial Intelligence based Time Series Analysis and Prediction for Condition Monitoring

Interdisciplinary Project

## Motivation:

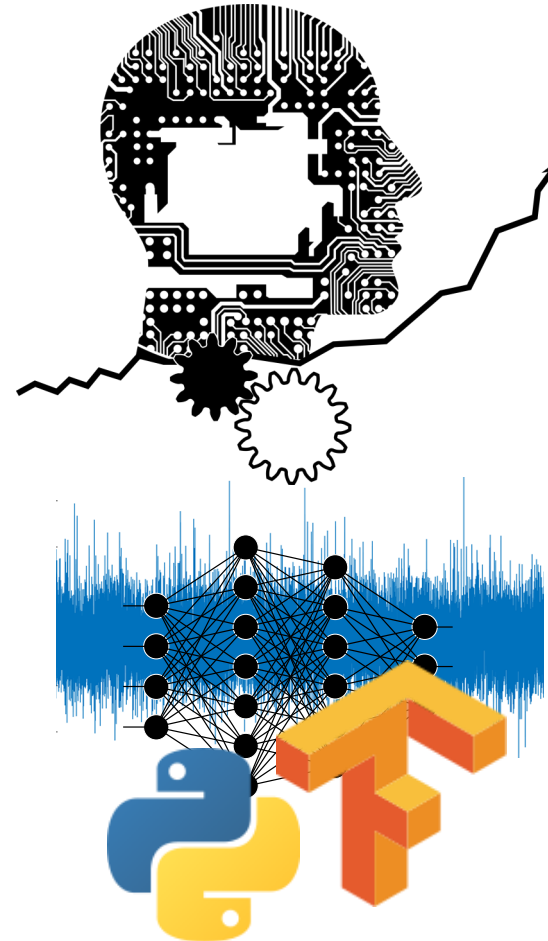
At the Gear Research Centre we are developing an innovative artificial intelligence based condition monitoring system with gear damage detection based on various measured time series data. With the benefit of having a large test facility, we are able to run as many tests as necessary to get the huge amount of data needed.

## Your task:

The goal of this IDP is to develop and implement advanced neural networks for time series data ML. Based on various test data (e.g. acceleration) you will develop a ML pipeline to detect the degree and characteristics of gear damages. Furthermore, you will use the data of industrial tests to advance neural network models for damage prediction.

## Your profile:

- Highly interested in artificial intelligence with advanced knowledge of neural networks
- Understanding of Time Series ML
- Coding Skills (e.g. Python, TensorFlow)
- Highly motivated and responsible
- Fluent in English or German



TU Munich  
Mechanical Engineering



Institute of Machine Elements  
Gear Research Centre (FZG)  
Prof. Dr.-Ing. K. Stahl  
[www.fzg.mw.tum.de](http://www.fzg.mw.tum.de)

## Contact:

M.Sc. Stefan Sendlbeck  
Tel. +49 89 289 15876  
[sendlbeck@fzg.mw.tum.de](mailto:sendlbeck@fzg.mw.tum.de)

10.09.2019

