Master Thesis to assign / Masterarbeit zu vergeben

Visualization of Fault Detection and Diagnosis Algorithm for Downscaled Vehicle-Track-Model

To make the railway system more intelligent has been a research hotspot for the recent ten years. Because of the complexity of the system, the inspection as well as further maintenance process of the railway tracks are in most cases still preventive and manual.

In order to further promote the intelligent maintenance system, we would like to develop a fault detection and diagnosis system, which hopefully integrates not only the machine learning algorithm, but also the visualization of the laboratory track-vehicle-model and the detection results. The final product should be in form of an application using MATLAB or equivalent.

In this project, a three-axle-sensor are used to measure the accelerations and gyros. for the visualization of the vehicle-track-model, a simple distance evaluation should be executed. For the fault detection and diagnosis, a supervised machine learning model based on known patterns should be developed. At last, an visualization tool should be developed to integrate the two models.

This master thesis can be written in English or German.

Prior knowledge is of advantage: MATLAB or equivalent

If you are interested, please contact / Bei Interesse wenden Sie sich bitte an:
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