

Interdisciplinary project - Digital Agriculture

AgriTrac - Data Solutions for Agricultural Machinery

IDP project for 2-3 students from the fields:

- Machine Learning & Data Engineering (2-3 students)
- App/web/ & industrial software development (1-2 students)

Job description

Al and data-based solutions are playing an increasingly important role in agriculture and are fundamentally changing cultivation processes and operational procedures. Agricultural machinery is now more intelligent than ever - by connecting to cloud-based systems, manufacturers can monitor, maintain and further develop their machines in a more targeted manner.



Although they provide telemetry data accurate to the second, so far there are only a few approaches for systematically evaluating this information and making it usable for farmers or manufacturers. In cooperation with our industrial partner HORSCH Maschinen GmbH, we want to use this IDP to investigate the potential arising from the analysis of machine data - for example for remote maintenance, availability analyses, regional and temporal anomalies, the evaluation of area performance or the identification of conspicuous product series. We have an extensive data set of agricultural machinery in use worldwide at our disposal. In addition, new approaches are to be developed as to how machine data can offer real added value for agricultural practice and the further development of machines and service. This project is aimed at students who are interested in working on real-world data sets and creatively developing their own ideas and solutions for applied and industry-related issues.

Work packages:

- (Brief) literature review & current research trends
- · Identifying the potential of agricultural machinery data for manufacturers & farmers
- Forecasting & analysis models for agricultural machinery

Requirements (depending on the work package):

- (Good) knowledge of Python and Pytorch
- (Good) knowledge of data analytics & machine learning
- Motivation for agricultural topics

Contact & Info:

Start summer By arrangement

Please send a short e-mail including CV, professional background and motivation to malte.von.bloh@tum.de

Supervisor: Prof. Senthold Asseng /

Malte von Bloh