Interdisciplinary Project - Digital Agriculture

Smartfield - AI for agricultural field management

IDP project for 2-3 students from the fields of:

- Machine learning (1-2 students)
- App/web/ & industrial software development (1-2 students).

Task description

AI is increasingly becoming a stand-alone decision-making and support tool for a variety of work in many fields. In agriculture, too, AI algorithms can take over a farmer's management and promise to increase yields and reduce environmental impact. The IDP is linked to the "Smartfield" research project, in which an AI algorithm will take over a farmer's decisions and independently manage experimental fields. Comparison fields of trained professionals serve as benchmarks.

Students in this project will assist in moving AI models from research into a "production" mode and bring various machine learning models necessary for automated farm management into a decision pipeline. Furthermore, the project offers students from the field of **app/web development the** opportunity to develop a mobile application that enables live monitoring of the models.

Work packages:

- (Brief) literature review & current research trends.
- Testing and optimizing model robustness under real-world conditions
- Create a monitoring platform
- Implement a data pipeline

Prerequisites (depending on work package):

- (Good) knowledge in Python and Pytorch
- (Good) knowledge in machine learning
- Knowledge server/web development
- Motivation for agricultural topics

Start, Contact & Info:	Please send a short mail including CV,	Supervisor:
Beginn Winter 2023	professional background and motivation to	Prof. Senthold Asseng /
After arrangement	malte.von.bloh@tum.de.	Malte von Bloh