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# Crop Yield Estimation Based on Satellite Data using Deep Learning

### 1 Motivation

The research group of Professor Schmidt (Chair of Computer Science 8) deals with various methods in the field of "Satellite Image Processing". In this work, a new approach is to be developed in cooperation with the company Greenspin to estimate the yield of various crops using satellite data. Based on satellite data and available statistics on the yield of the past years, the current yield will be estimated using a deep learning approach. MODIS products, which are available daily with low spatial resolution, will be used as input data.



## Objectives

The work is divided into the following subtasks:

- 1. Literature review
- 2. Familiarization with an existing approach to area estimation using Deep Learning.
- 3. Develop a new method for estimating yield (in tons per hectare) instead of area (in hectares)
- 4. Integration of additional data sets as explanatory variables (for example, temperature, precipitation).
- 5. Evaluation of the resulting method for different regions, for example USA and Europe

#### We offer

- Interesting work in current research topics.
- Opportunity to contribute own ideas in solution design
- Intensive supervision and support

#### Contact

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