CropSegmentation: M1

The initial phase of the project involved establishing a code repository on GitHub and implementing the Cookiecutter Data Science structure, a logical, reasonably standardized, but flexible project structure for doing and sharing data science work.

1. Repository Creation

The GitHub repository was created to serve as the central hub for all project-related code and documentation. Cookiecutter Data Science, a framework for structuring data science projects, was adopted to organize the repository. This framework provides a comprehensive directory structure, which helps in maintaining a clean and manageable codebase. It includes predefined folders for datasets, notebooks, references, and scripts, ensuring that all project components are well-organized and easily accessible.

2. Model and Dataset Card Development

As part of the initial phase, the Model Card and the Dataset Card were created, in order to provide a concise and well-structured overview of the model and datasets used in the project.

- **Model Card**: The Model Card includes details about the model's developer, version, type, and training algorithms. It also outlines its primary intended uses and users, ethical considerations, and performance metrics. The model, a U-NET neural network, aims to perform semantic segmentation tasks, particularly in precision agriculture. Key performance metrics include pixel accuracy and intersection over union (IoU).

- **Dataset Card**: The Dataset Card describes the datasets used for training and evaluation. The training dataset, 'UAV Sugar Beets 2015-16', consists of aerial images of sugar beet fields, while the evaluation dataset, 'Remote Sensing 2018 Weed Map', includes labeled aerial images for semantic weed mapping. The card details dataset structure, instances, and additional information relevant to understanding the data's origin and composition.