IEEE Geoscience and Remote Sensing Letters (GRSL)

Cover Letter

Manuscript Title: Productive Crop Field Detection: A New Dataset and Deep Learning Benchmark Results

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Relevance of this Manuscript to the IEEE Geoscience and Remote Sensing Letters

This paper introduces a new dataset of productive fields based on the agriculture machine's operation combined with Sentinel-2 images collected over a period. The proposed dataset contains highly accurate positive samples (i.e., productive crop fields) and inferred negative ones, making it well-suited for positive and unlabeled learning. Moreover, we offer state-of-the-art machine learning and deep learning benchmark results for further comparison, including classification methods with different training strategies (i.e., supervised learning, self-supervised learning, and semi-supervised classification of unlabeled data). Considering that typical farmers are usually interested in monitoring productive areas rather than all possible fields since many are not fertile or suitable for any crop, this paper is especially relevant to the IEEE Geoscience and Remote Sensing Letters because it fills an important gap by offering a new research avenue toward productive field detection. The presented dataset is accurate and publicly available, figuring as a valuable resource for promoting large-scale classification within the remote sensing community.

Issues relating to Journal Policies

There are no issues relating to this journal policies.

Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article. The authors also declare that there is no conflict of interest with any reviewers.

Approval of the Manuscript

All authors read and approved this submitted manuscript.

Originality of the Manuscript

The authors inform that this manuscript represents original work that has not been published in any other journal or conference proceedings, and it is not currently being considered by another journal or conference.

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