The Applications of Deep Learning in Smart Agriculture

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Message from the Guest Editors

Advancing toward smart agriculture has become an unavoidable step. This means that new emerging technologies should be integrated within important agricultural tasks (e.g., phenotyping, disease detection, yield prediction, harvesting, spraying, etc.). Many of these emerging technologies are related to deep learning.

The relationship between agriculture and deep learning has become rather promising in recent years; specifically, positive results have been reported by implementing deep-learning-based techniques, such as transfer learning, domain adaptation/generalization, transformer-based architectures, generative adversarial neural networks, knowledge distillation, neural architecture search, etc. These techniques, which directly favor the improvement of the current methods used in precision agriculture, could boost the value of different types of data: from images or videos to the texts found in regulatory documents, without forgetting about tabular data containing vegetation indexes along the growing season.

Thus, this Special Issue aims to provide a place for submitting all papers scoped under the agricultural domain and the use of deep learning-based techniques.

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Special Issue

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Message from the Editor-in-Chief

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