Special Issue

AI and Agricultural Robots

Message from the Guest Editor

Robotics and automation in agriculture can help to mitigate labor shortages by reducing reliance on manpower and improve agricultural productivity to support sustainable economic development and growth. However, the marketability and adoption of robotic systems in agriculture is currently limited by economic and technology barriers that prevent highly efficient autonomous operations at a cost that justifies the low commodity values. Artificial Intelligence (AI) holds promise in overcoming several technology barriers to improve the performance of agricultural robotic systems. Recent advances have led to growth in the use of AI in a variety of agricultural applications. Beyond the current state of knowledge, further research in efficient architectures along with scalable and fast training methods is necessary to expand AI toolboxes to meet performance requirements in agriculture while considering the restricted computational capacity. Furthermore, the potential of AI in agriculture can be realized through solution approaches that are robust with respect to uncertain, unstructured, and varying agricultural environments.

Guest Editor

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Deadline for manuscript submissions

closed (15 April 2022)

Agronomy

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 6.7

mdpi.com/si/65497

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