

Special Issue

Applications of Computer Vision in Agriculture

Message from the Guest Editors

This Special Issue focuses on practical developments that bridge research innovation and real-world adoption. The scope covers imaging and sensing platforms, core vision tasks, and integration with agricultural machinery and robotics. We welcome papers that emphasize reproducible pipelines, well-designed field experiments, and evaluation protocols that reflect operational constraints and generalization across cultivars, locations, and seasons. We encourage studies that demonstrate how vision outputs can be used to drive practical operations. We also welcome work that tackles the realities that determine field usability, including data efficiency and adaptability across seasons and cultivars (annotation strategy, semi-/self-supervised learning, domain adaptation), uncertainty-aware predictions that support risk-sensitive decisions, and deployment constraints such as latency, robustness, and maintainability on embedded platforms. This Special Issue aims to accelerate the development of reliable, scalable vision tools that measurably improve efficiency, sustainability, and resilience in precision agriculture.

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Dr. Mathew G. Pelletier

Retired Scientist from Agricultural Research Service, United States
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manuscripts are peer-reviewed and a first decision is provided to authors approximately 22 days after submission; acceptance to publication is undertaken in 6.3 days (median values for papers published in this journal in the second half of 2025).