Special Issue

Data-Driven Fields: AI and Unmanned Sensing Technologies in Agricultural Optimization

Message from the Guest Editors

This Special Issue invites cutting-edge research at the intersection of artificial intelligence and sensor technology to accelerate the transition to digital, precise, and intelligent agriculture. High-resolution remote sensing, combined with deep learning and emerging foundation/generative models, is reshaping how we scout fields, diagnose crop stress, guide variable-rate inputs, and forecast yield. We particularly welcome studies that reduce data-acquisition costs through synthetic data and domain adaptation, fuse multi-modal sources (satellite, UAV, robot in-situ/IoT, agronomic text), and operationalize real-time decision support for irrigation, fertilization, and pest/disease management. Contributions that integrate physical knowledge with data-driven models, e.g., digital twins of fields and greenhouse, are encouraged. Keywords

- digital agriculture
- crop phenotyping
- computer vision in agriculture
- drone
- sustainable agriculture
- sensors
- pests and diseases
- AI-generated content
- agricultural optimization

Guest Editors

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

AgriEngineering (ISSN 2624-7402) is an international open access, open-source, and cross-disciplinary scientific journal on the engineering science of agricultural and horticultural production. Our aim is to encourage scientists to publish their experimental and theoretical research, along with the full set of schematics, source-code, and mechanical design models leading to accelerated and rapid dissemination of leading-edge technologies emerging in agricultural, environmental, and agronomic engineering. *AgriEngineering* publishes articles, technical notes, reviews, commentaries, and case/field reports, as well as Special Issues on particular subjects.

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