

## Special Issue

# Intelligent Automation for Agricultural Robotics: AI, LLMs, and Data Fusion Approaches

### Message from the Guest Editors

Agriculture is entering a new era of automation, with intelligent robots transforming farming practices into data-driven, efficient, and sustainable processes.

Robots equipped with artificial intelligence (AI), large language models (LLMs), multimodal data fusion, and edge computing are enabling smart farming solutions that can handle complex tasks such as harvesting, weeding, crop monitoring, and soil analysis in highly unstructured farm environments. Our goal is to explore how intelligent automation technologies can improve productivity, sustainability, and precision in agriculture while fostering human–robot collaboration. We welcome original research articles and reviews covering, but not limited to, the following topics:

- AI- and LLM-driven agricultural robots;
- Human–robot interactions in farming applications (voice, multimodal, natural language, etc.);
- Data fusion and multimodal integration (vision, IoT, UAVs, and ground robots);
- Harvesting, weeding, spraying, and planting robots;
- Edge and cloud computing for smart agriculture;
- Crop and soil monitoring using robots and drones;
- Swarm robotics and drone–robot collaboration;
- Sustainable and energy-efficient robotic farming solutions;

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### Guest Editors

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Dr. Amin Kolahtooz

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### Deadline for manuscript submissions

30 June 2026



## Automation

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### Message from the Editor-in-Chief

*Automation* (ISSN 2673-4052) is an international peer-reviewed open access journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of automation and control system. Both experimental and theoretical papers are published, including all aspects of manufacturing systems, energy management systems, aerospace control systems, learning systems, intelligent control systems and so on. *Automation* organizes Special Issues devoted to specific automation and controlling areas and applications each year.

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### Editor-in-Chief

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