

Special Issue

AI-Driven Optimization in Robotics and Precision Agricultures

Message from the Guest Editors

This Special Issue highlights advancements in AI, robotics, and precision agriculture, focusing on computational optimization and intelligent automation. We invite original research, reviews, and case studies on AI-driven methods to improve agricultural robotics, decision-making, and field operations. With modern agriculture increasingly dependent on robotics and real-time systems, integrating AI with high-performance computing (HPC), heterogeneous architectures (CPUs, GPUs, FPGAs), and IoT platforms is crucial. This issue seeks contributions that use AI to optimize robotic performance, enhance autonomy, and improve farming efficiency and sustainability. Topics include:

- AI optimization for agricultural robotics
- Embedded and real-time AI in field environments
- FPGA and heterogeneous acceleration
- Sensor fusion, perception, and decision-making
- IoT and edge computing for smart farming
- Reinforcement learning and computer vision
- Scalable HPC for agricultural data
- Generative AI for simulation and modeling
- AR for training and planning
- Serious games for education and simulation
- Digital twins for optimization
- Field deployments of AI-powered platforms
- Case studies on AI-integrated systems

Guest Editors

Dr. Dimitris Ziouzos

Department of Electrical & Computer Engineering, Faculty of Engineering, University of Western Macedonia, 50100 Kozani, Greece

Dr. Minas Dasygenis

Laboratory of Robotics, Embedded and Integrated Systems, Department of Electrical and Computer Engineering, University of Western Macedonia, 50131 Kozani, Greece

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Technologies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
technologies@mdpi.com

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About the Journal

Message from the Editor-in-Chief

Technologies, provides a single focus for reporting on developments of all technologies, regardless of their application. It is our intention that *Technologies* becomes the journal of choice for both researchers wanting to publish their work and technologists wishing to exploit the high quality research across a wide range of potential applications. Through its open access policy, its quick publication cycle, *Technologies* will facilitate the rapid uptake and development of the research presented, ultimately providing benefit to the wider society.

Editor-in-Chief

Prof. Dr. Manoj Gupta

Department of Mechanical Engineering, National University of
Singapore, Singapore 117576, Singapore

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