Advances in agri-food robotics

Edited by Professor Eldert van Henten, Wageningen University, The Netherlands and Professor Yael Edan, Ben-Gurion University of the Negev, Israel

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Advances in agri-food robotics

Edited by: Professor Eldert van Henten, Wageningen University, The Netherlands; and Professor Yael Edan, Ben-Gurion University of the Negev, Israel

Endorsement:

"Edited by two internationally distinguished domain experts, this new book offers a comprehensive overview of robotics technology and outlines the recent advancements of applying robotic equipment in agri-food systems. The contributing authors have included a selection of outstanding examples of the successful application of these technologies as a means of illustrating how the adoption of robotic technologies can contribute to improvements in product quality and yields. Thus, I am confident that this book – edited by Professor Eldert van Henten and Professor Yael Edan – will prove to be an excellent resource for understanding and adopting robotic technologies to support innovation in modern agri-food systems."

Professor Qin Zhang, Director, Center for Precision and Automated Agricultural Systems, Washington State University, USA

Description:

The global population is expected to reach 9 billion by 2050. Feeding this growing population more sustainably is a huge challenge facing agriculture. Developing agricultural robotics is seen as one potential solution to tackling this challenge.

Advances in agri-food robotics reviews the utilisation of agricultural robots to deal with increasing labour shortages in agriculture whilst bringing greater precision and efficiency into farming operations. The book addresses recent advances in agricultural robotic technologies and how these can be optimised to monitor and manage crop production more effectively, from phenotyping for improved varieties to harvesting the finished product.

In its comprehensive exploration of the technologies available, the book provides farmers with the means necessary to invest – and trust – in agricultural robotics to improve the productivity and profitability of their farm.

Key features:

- Provides a comprehensive review of the recent advances in agricultural robotics, such as advances in sensing and perception, as well as technologies and actuation
- Addresses our understanding of the social, ethical and economic aspects of agricultural robotics, including the regulatory frameworks and standards required to authorise their adoption
- Provides examples of the practical application of agricultural robotics in an array of agricultural settings

Audience:

Academic researchers in crop and livestock science, agricultural engineers, data scientists, as well as government and private sector agencies supporting sustainable agriculture and the development of agricultural technology

Editors' details:

Dr Eldert van Henten is Professor of Biosystems Engineering and Head of the Farm Technology Group at Wageningen University and Research, The Netherlands.

Dr Yael Edan is Professor in Industrial Engineering at the Ben Gurion University of the Negev, Israel, where she is Head of the Intelligent Robotics Laboratory and Director of the Agricultural, Biological and Cognitive (ABC) Robotics Initiative.

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