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Computer and Computing Technologies in Agriculture XI

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Daoliang Li · Chunjiang Zhao (Eds.)

Computer and Computing Technologies in Agriculture XI

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Preface

Agricultural information technology has become an important means for developing modern agriculture. In order to promote the academic exchange and cooperation of ICT in Agriculture, from 2000 to 2016, the National Engineering Research Center for Information Technology in Agriculture (NERCITA), China Agricultural University (CAU), and related organizations hosted eight events in the International Symposium on Intelligent Information Technology in Agriculture (ISIITA) series and ten events in the International Conference on Computer and Computing Technologies in Agriculture (CCTA) series, which provided a platform for the exchange of information on and ICT in agriculture between global scholars.

Since 2015, the Internet of Things, big data, robots, and precision farming have entered a stage of agricultural applications. Artificial intelligence (AI) has gradually penetrated the agriculture field and promoted the development of intelligent agriculture, which is characterized by “information perception, quantitative decision-making, intelligent control, precision input, and personalized services.” To exchange experiences and share the state of the art as well as successful application cases of ICT in intelligent agriculture, ISIITA and CCTA were merged into the International Conference on Intelligent Agriculture (ICIA). The ICIA will be held every two years (odd year), and the co-sponsors and conference venue are also selected according to applications.

ICIA 2017 focused on four topics: Internet of Things and Big Data in Agriculture, Precision Agriculture and Agricultural Robot, Agricultural Information Services, and Animal and Plant Phenotyping for Agriculture. The newest theories, viewpoints, technologies, products, and applications were extensively presented. Practical experiences in innovation and applications in intelligent agriculture were shared among experts from different countries.

We selected the 100 best papers among the 282 papers submitted to CCTA 2017 for these proceedings. All papers underwent two reviews by members who are from the Special Interest Group on Advanced Information Processing in Agriculture (AIPA), IFIP. In these proceedings, creative thoughts and inspiration can be discovered, discussed, and disseminated. It is always exciting to have experts, professional, and scholars with creative contributions getting together to share inspiring ideas and to accomplish great developments in the field.

I would like to express my sincere thanks to all authors who submitted research papers to the conference. Finally, I would also like to express my sincere thanks to all speakers, session chairs, and attendees, both national and international, for their active participation and support of this conference.

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