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Preface

Computers are firmly rooted in nearly all areas of life today. In company life, documents and products are produced by using computers, communication is by e-mail, companies present their commodities and services on the Internet and copious amounts of data are stored in databases. Different application programs are required for all of these processes.

The 2011 International Conference on Applied Informatics and Communication (ICAIC 2011) held during August 20–21, 2011, in Xi'an, China, provided an excellent platform for scientists and engineers of different countries working in various fields to exchange the latest developments and foster world-wide co-operation in the field of applied informatics and communication. Hundreds of experts and scholars from different countries attended ICAIC 2011.

Being crucial for the development of applied informatics and communication, our conference encompasses numerous research topics and applications: from the core fields of information systems and software engineering, manufacturing and automation engineering, computer-based signal processing and image processing to Communications Technology and other related topics. All of the papers were peer-reviewed by selected experts and 451 were selected for the proceedings of ICAIC 2011. We believe that this book provides a valuable reference for researchers in related fields. The papers describe how efficient, user-friendly, secure and upgradeable information technology systems can be designed, built and meaningfully used and operated in practice.

ICAIC 2011 was organized by the Information Engineering Research Institute, USA, and the proceeding are published by Springer. The conference was held in Xi'an. Xi'an, located in central-northwest China, records the great changes of the country just like a living history book. Called Chang'an (meaning the eternal city) in ancient times, Xi'an is one of the birthplaces of the ancient Chinese civilization in the Yellow River Basin area. It is the eastern terminal of the Silk Road and the site of the famous Terracotta Warriors of the Qin Dynasty. More than 3,000 years of history, including over 1,100 years as the capital city of ancient dynasties, have endowed Xi'an with an amazing historical heritage.

We sincerely thank all the members of the ICAIC Organizing Committee, Academic Committee and Program Committee. Moreover, we also express our sincere appreciation to all the referees, staff and volunteers for their tremendous efforts. Finally, we would like to thank all the authors who have contributed to this volume.

We hope that readers will find lots of interesting and useful information in the proceedings.

June 2011

Dehuai Zeng
Jianwei Zhang
Jun Zhang

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