PROCEEDINGS OF SPIE

Mobile Multimedia/Image Processing, Security, and Applications 2008

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Editors

18–20 March 2008
Orlando, Florida, USA

Sponsored and Published by
SPIE

Volume 6982

Proceedings of SPIE, 0277-786X, v. 6982

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Please use the following format to cite material from this book:
Author(s), "Title of Paper," in *Mobile Multimedia/Image Processing, Security, and Applications 2008*, edited by Sos S. Agaian, Sabah A. Jassim, Proceedings of SPIE Vol. 6982 (SPIE, Bellingham, WA, 2008) Article CID Number.

ISSN 0277-786X
ISBN 9780819471734

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIE.org

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIEDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

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Introduction

Research in Information and Communication Technology (ICT) in the 21st century has so far been influenced by three main factors: (1) the emergence of new wireless technologies and pervasive computing environments, (2) the rapid growth in mass deployment of programmable mobile devices equipped with low-cost high-resolution digital cameras, and (3) the rise of international terrorism and the rapid growth in cybercrime and identity theft. While technological advances provide new and exciting opportunities for ranging applications, they also present the research community with numerous challenges that are exacerbated by growing security concerns. The most significant challenges in this respect include: efficient and secure processing of image/video processing suitable for implementation on mobile devices that are constrained in their memory capacities and computational powers, developing innovative solutions to problems associated with some incompatibilities of different wireless technologies (e.g. WiFi and WiMAX) that in turn limit the ability to fully exploit the capabilities of pervasive computing environments, and developing proactive security solutions to protect computing infrastructures and sensitive information systems while preserving the privacy of citizens.

The high-quality research papers and posters presented at the conference and reported in this proceedings volume make important contributions toward meeting some of the challenges listed above. Several papers propose novel secure and efficient image/video, encryption, steganography, and watermarking schemes that are specially designed for mobile devices. The security and performance of wireless ad hoc networks are dealt with by a number of papers that propose innovative schemes for secure routing and for the detection of malicious nodes in such networks. One paper addressed the issue of cross-standards wireless technologies. Feature detection and extractions in images are dealt with in a number of papers that also propose approaches to improving the accuracy of such schemes. Various aspects of identification schemes are tackled with emphasis on the effect of image quality on the performance of computer and human recognition of faces and irises, as well as mechanisms to protect biometric data. The conference also included two invited presentations. The first one gave an overview of the security and wireless extension of JPEG 2000, while the other one highlighted the use of Q-filters for improved classification techniques.

The various presentations attracted interesting and high-quality questions and interactions among the researchers attending the conference. This has demonstrated the importance of all the tackled issues and their strong relevance to the current challenges in mobile multimedia processing and security of wireless technologies.

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