

An Excellent Addition to Your Library!

Released: April 2011

New Technologies for Digital Crime and Forensics: Devices, Applications, and Software

New Technologies for Digital Crime and Forensics

Devices, Applications, and Software



CHANG-TSUN LI & ANTHONY T.S. HO

ISBN: 9781609605155; © 2011; 374 pp.

Print: US \$180.00 | Perpetual: US \$255.00 | Print + Perpetual: US \$360.00

Chang-Tsun Li (University of Warwick, UK) and
Anthony T. S. Ho (University of Surrey, UK)

Central to understanding and combating digital crime is the ability to develop new methods for the collection and analysis of electronic evidence.

New Technologies for Digital Crime and Forensics: Devices, Applications, and Software provides theories, methods, and studies on digital crime prevention and investigation, which are useful to a broad range of researchers and communities. This field is under constant evolution as the nature of digital crime continues to change and new methods for tracking and preventing digital attacks are developed.

Topics Covered:

- Anonymous attacks
- Attacks on in-vehicle networks
- Cryptographic security
- Database watermarking
- Methods for identifying spammers
- Mission-critical computer systems
- Online signature verification
- Online virtual worlds
- Secure content distribution
- Voice over IP

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Chang-Tsun Li received the B.E. degree in electrical engineering from Chung-Cheng Institute of Technology (CCIT), National Defense University, Taiwan, in 1987, the MSc degree in computer science from U. S. Naval Postgraduate School, USA, in 1992, and the Ph.D. degree in computer science from the University of Warwick, UK, in 1998. He was an associate professor of the Department of Electrical Engineering at CCIT during 1998-2002 and a visiting professor of the Department of Computer Science at U.S. Naval Postgraduate School in the second half of 2001. He is currently Professor of the Department of Computer Science at the University of Warwick, UK, a Fellow of British Computer Society, the Editor-in-Chief of the *International Journal of Digital Crime and Forensics*, an editor of the *International Journal of Imaging (IJI)* and an associate editor of the *International Journal of Applied Systemic Studies (IJASS)* and the *International Journal of Computer Sciences and Engineering Systems (IJCSE)*. He has involved in the organisation of a number of international conferences and workshops and also served as member of the international program committees for several international conferences. He is also the coordinator of the international joint project entitled Digital Image and Video Forensics funded through the Marie Curie Industry-Academia Partnerships and Pathways (IAPP) under the EU's Seventh Framework Programme from June 2010 to May 2014. His research interests include digital forensics, multimedia security, bioinformatics, computer vision, image processing, pattern recognition, evolutionary computation, machine learning and content-based image retrieval.



www.igi-global.com

Publishing Academic Excellence
at the Pace of Technology Since 1988

Section 1: Digital Evidence

Chapter 1

Providing Cryptographic Security and Evidentiary Chain-of-Custody with the Advanced Forensic Format, Library, and Tools

Garfinkel Simson L. (Naval Postgraduate School & Harvard University, USA)

Chapter 2

Voice Over IP:

Slay Jill (University of South Australia, Australia)

Simon Matthew (University of South Australia, Australia)

Chapter 3

Volatile Memory Collection and Analysis for Windows Mission-Critical Computer Systems

Savoldi Antonio (University of Brescia, Italy)

Gubian Paolo (University of Brescia, Italy)

Chapter 4

Evidentiary Implications of Potential Security Weaknesses in Forensic Software

Ridder Chris K. (Stanford University, USA)

Section 2: Combating Internet-Based Crime

Chapter 5

Methods to Identify Spammers

Eggendorfer Tobias (Universität der Bundeswehr München, Germany)

Chapter 6

Spam Image Clustering for Identifying Common Sources of Unsolicited Emails

Zhang Chengcui (University of Alabama at Birmingham, USA)

Chen Xin (University of Alabama at Birmingham, USA)

Chen Wei-Bang (University of Alabama at Birmingham, USA)

Yang Lin (University of Alabama at Birmingham, USA)

Warner Gary (University of Alabama at Birmingham, USA)

Chapter 7

A Model Based Approach to Timestamp Evidence Interpretation

Willassen Svein Yngvar (Norwegian University of Science and Technology, Norway)

Chapter 8

Conducting Forensic Investigations of Cyber Attacks on Automobile In-Vehicle Networks

Nilsson Dennis K. (Chalmers University of Technology, Sweden)

Larson Ulf E. (Chalmers University of Technology, Sweden)

Chapter 9

Dealing with Multiple Truths in Online Virtual Worlds

Sablatnig Jan (Technische Universität Berlin, Germany)

Lehmann-Grube Fritz (Technische Universität Berlin, Germany)

Grottko Sven (University of Stuttgart, Germany)

Cikic Sabine (Technische Universität Berlin, Germany)

Chapter 10

Locally Square Distortion and Batch Steganographic Capacity

Ker Andrew D. (Oxford University Computing Laboratory, UK)

Section 3: Content Protection through the Use of Extrinsic Data

Chapter 11

Efficient Forensic Analysis for Anonymous Attack in Secure Content Distribution

Jin Hongxia (IBM Almaden Research Center, USA)

Chapter 12

Protection of Digital Mammograms on PACSs Using Data Hiding Techniques

Li Chang-Tsun (University of Warwick, UK)

Li Yue (University of Warwick, UK)

Wei Chia-Hung (Ching Yun University, Taiwan)

Chapter 13

Reversible and Blind Database Watermarking Using Difference Expansion

Gupta Gaurav (Macquarie University, Australia)

Pieprzyk Josef (Macquarie University, Australia)

Chapter 14

Medical Images Authentication through Repetitive Index Modulation Based Watermarking

Li Chang-Tsun (University of Warwick, UK)

Li Yue (University of Warwick, UK)

Section 4: Application of Pattern Recognition and Signal Processing Techniques to Digital Forensics

Chapter 15

Unexpected Artifacts in a Digital Photograph

Sorell Matthew J. (University of Adelaide, Australia)

Chapter 16

Conditions for Effective Detection and Identification of Primary Quantization of Re-Quantized JPEG Images

Sorell Matthew J. (University of Adelaide, Australia)

Chapter 17

Dynamic Structural Statistical Model Based Online Signature Verification

Chen Yan (Tsinghua University, China)

Ding Xiaoqing (Tsinghua University, China)

Wang Patrick S. P. (Northeastern University, USA)

Chapter 18

Efficient Image Matching using Local Invariant Features for Copy Detection

Chennamma H.R. (University of Mysore, India)

Rangarajan Lalitha (University of Mysore, India)

Rao M.S. (Indian Academy of Forensic Sciences, India)

Chapter 19

Reliable Motion Detection, Location and Audit in Surveillance Video

Poursoltan Samaan (University of Adelaide, Australia)

Sorell Matthew J. (University of Adelaide, Australia)

Chapter 20

Cancellable Biometrics for On-line Signature Recognition

Maiorana Emanuele (Università degli Studi Roma TRE, Italy)

Campisi Patrizio (Università degli Studi Roma TRE, Italy)

Neri Alessandro (Università degli Studi Roma TRE, Italy)