

IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY

A PUBLICATION OF THE IEEE SIGNAL PROCESSING SOCIETY



www.signalprocessingsociety.org

MARCH 2016
APRIL 2016

VOLUME 11
VOLUME 11

NUMBER 3
NUMBER 4

ITIFAS6

(ISSN 1556-6013)



Hand-based gender classification [115], as seen in “What Else Does Your Biometric Data Reveal? A Survey on Soft Biometrics,” by A. Dantcheva, *et al.*, p. 441. A female hand (left), a male hand (middle), and a segmented hand (right).

For the March 2016 issue, see p. 437 for Table of Contents.
For the April 2016 issue, see p. 661 for Table of Contents.

IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY

A PUBLICATION OF THE IEEE SIGNAL PROCESSING SOCIETY



www.signalprocessingsociety.org

APRIL 2016

VOLUME 11

NUMBER 4

ITIFIA6

(ISSN 1556-6013)

REGULAR PAPERS

Security Vulnerabilities and Countermeasures for Target Localization in Bio-NanoThings Communication Networks	<i>A. Giaretta, S. Balasubramaniam, and M. Conti</i>	665
Designing Analog Fountain Timing Channels: Undetectability, Robustness, and Model-Adaptation	<i>W. Liu, G. Liu, J. Zhai, Y. Dai, and D. Ghosal</i>	677
Image-Like 2D Barcodes Using Generalizations of the Kuznetsov–Tsybakov Problem	<i>J. Duda, P. Korus, N. J. Gadgil, K. Tahboub, and E. J. Delp</i>	691
Geometric Range Search on Encrypted Spatial Data	<i>B. Wang, M. Li, and H. Wang</i>	704
Illuminant-Based Transformed Spaces for Image Forensics	<i>T. Carvalho, F. A. Faria, H. Pedrini, R. da S. Torres, and A. Rocha</i>	720
Adaptive Steganalysis Based on Embedding Probabilities of Pixels	<i>W. Tang, H. Li, W. Luo, and J. Huang</i>	734
Conjunctive Keyword Search With Designated Tester and Timing Enabled Proxy Re-Encryption Function for E-Health Clouds	<i>Y. Yang and M. Ma</i>	746
Game Theory and Adaptive Steganography	<i>P. Schöttle and R. Böhme</i>	760
Information Theoretical Limit of Media Forensics: The Forensicability	<i>X. Chu, Y. Chen, M. C. Stamm, and K. J. R. Liu</i>	774

(Contents Continued on Page 662)

IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY (ISSN 1556-6013) is published monthly by the Institute of Electrical and Electronics Engineers, Inc. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society/Council, or its members. **IEEE Corporate Office:** 3 Park Avenue, 17th Floor, New York, NY 10016-5997. **IEEE Operations Center:** 445 Hoes Lane, Piscataway, NJ 08854-4141. **NJ Telephone:** +1 732 981 0060. **Price/Publication Information:** Individual copies: IEEE Members \$20.00 (first copy only), nonmembers \$339.00 per copy. (Note: Postage and handling charge not included.) Member and nonmember subscription prices available upon request. **Copyright and Reprint Permissions:** Abstracting is permitted with credit to the source. Libraries are permitted to photocopy for private use of patrons, provided the per-copy fee of \$31.00 is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For all other copying, reprint, or republication permission, write to Copyrights and Permissions Department, IEEE Publications Administration, 445 Hoes Lane, Piscataway, NJ 08854-4141. Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc. All rights reserved. **Postmaster:** Send address changes to IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY, IEEE, 445 Hoes Lane, Piscataway, NJ 08854-4141. GST Registration No. 125634188. CPC Sales Agreement #40013087. Return undeliverable Canada addresses to: Pitney Bowes IMEX, P.O. Box 4332, Stanton Rd., Toronto, ON M5W 3J4, Canada. IEEE prohibits discrimination, harassment and bullying. For more information visit <http://www.ieee.org/nondiscrimination>. Printed in U.S.A.

(Contents Continued from Page 661)

Dual-Server Public-Key Encryption With Keyword Search for Secure Cloud Storage	R. Chen, Y. Mu, G. Yang, F. Guo, and X. Wang	789
Seeing the Unseen: Revealing Mobile Malware Hidden Communications via Energy Consumption and Artificial Intelligence	L. Caviglione, M. Gaggero, J.-F. Lalande, W. Mazurczyk, and M. Urbański	799
SIIMCO: A Forensic Investigation Tool for Identifying the Influential Members of a Criminal Organization	K. Taha and P. D. Yoo	811
Detectability of the Order of Operations: An Information Theoretic Approach	X. Chu, Y. Chen, and K. J. R. Liu	823
A Bandwidth Monitoring Strategy Under Uncertainty of the Adversary's Activity	A. Garnaev and W. Trappe	837
Hierarchical and Shared Access Control	A. Castiglione, A. De Santis, B. Masucci, F. Palmieri, A. Castiglione, J. Li, and X. Huang	850
<hr/>		
COMMENTS AND CORRECTIONS		
Comments on “Control Cloud Data Access Privilege and Anonymity With Fully Anonymous Attribute-Based Encryption”	H. Ma, R. Zhang, and W. Yuan	866
Rebuttal to “Comments on ‘Control Cloud Data Access Privilege and Anonymity With Fully Anonymous Attribute-Based Encryption’”	T. Jung, X.-Y. Li, Z. Wan, and M. Wan	868
<hr/>		
EDICS—Editor’s Information Classification Scheme		869
Information for Authors		870
<hr/>		
ANNOUNCEMENTS		
Call for Papers—IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORKS Special Issue on Distributed Information Processing in Social Networks		872