

2015 IEEE International Workshop on Information Forensics and Security (WIFS 2015)

**Rome, Italy
16 – 19 November 2015**



**IEEE Catalog Number: CFP15WIF-POD
ISBN: 978-1-4673-6803-2**

**Copyright © 2015 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP15WIF-POD
ISBN (Print-On-Demand): 978-1-4673-6803-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

IMPROVED EDIT DETECTION IN SPEECH VIA ENF PATTERNS	1
<i>P. Esquef, J. Apolinario Jr., L. Biscainho</i>	
SIDE-INFORMED STEGANOGRAPHY WITH ADDITIVE DISTORTION	7
<i>T. Denemark, J. Fridrich</i>	
REDISCOVERING TEXT IN THE YALE MARTELLUS MAP: SPECTRAL IMAGING AND THE NEW CARTOGRAPHY	13
<i>R. Easton Jr., K. Sacca, G. Heyworth, M. Phelps, K. Boydston, C. Duzer</i>	
RELIABLE SECRET KEY GENERATION FROM PHYSICAL UNCLONABLE FUNCTIONS UNDER VARYING ENVIRONMENTAL CONDITIONS	19
<i>O. Gunlu, O. Iscan, G. Kramer</i>	
LOCAL GABOR RANK PATTERN (LGRP): A NOVEL DESCRIPTOR FOR FACE REPRESENTATION AND RECOGNITION	25
<i>A. Gangwar, A. Joshi</i>	
KEY SEARCH AND ADAPTATION BASED ON ASSOCIATION RULES FOR BACKWARD SECRECY	31
<i>K. Karthik</i>	
UPDATE STRATEGIES FOR HMM-BASED DYNAMIC SIGNATURE BIOMETRIC SYSTEMS	37
<i>R. Tolosana, R. Vera-Rodriguez, J. Ortega-Garcia, J. Fierrez</i>	
PRIVATE DATA AGGREGATION WITH GROUPS FOR SMART GRIDS IN A DYNAMIC SETTING USING CRT	43
<i>Z. Erkin</i>	
GENERALISED TALLY-BASED DECODERS FOR TRAITOR TRACING AND GROUP TESTING	49
<i>B. Skoric, W. Groot</i>	
IMPROVED 3D LIGHTING ENVIRONMENT ESTIMATION FOR IMAGE FORGERY DETECTION	55
<i>B. Peng, W. Wang, J. Dong, T. Tan</i>	
SINGLE RELAY SELECTION FOR SECURE COMMUNICATION IN A COOPERATIVE SYSTEM WITH MULTIPLE FULL-DUPLEX DECODE-AND-FORWARD RELAYS	61
<i>B. Nguyen, K. Kim</i>	
CONTINUOUS AUTHENTICATION AND IDENTIFICATION FOR MOBILE DEVICES: COMBINING SECURITY AND FORENSICS	67
<i>S. Mondal, P. Bours</i>	
MULTISCALE ANISOTROPIC TEXTURE UNSUPERVISED CLUSTERING FOR PHOTOGRAPHIC PAPER	73
<i>S. Roux, N. Tremblay, P. Borgnat, P. Abry, H. Wendt, P. Messier</i>	
FAST TARGET LINK FLOODING ATTACK DETECTION SCHEME BY ANALYZING TRACEROUTE PACKETS FLOW	79
<i>T. Hirayama, K. Toyoda, I. Sasase</i>	
TRUST-BASED SYBIL NODES DETECTION WITH ROBUST SEED SELECTION AND GRAPH PRUNING ON SNS	85
<i>S. Haruta, K. Toyoda, I. Sasase</i>	
A SEQUENTIAL METHOD FOR ONLINE STEGANALYSIS	91
<i>R. Cogramne</i>	
IS ENSEMBLE CLASSIFIER NEEDED FOR STEGANALYSIS IN HIGH-DIMENSIONAL FEATURE SPACES?	97
<i>R. Cogramne, V. Sedighi, J. Fridrich, T. Pevny</i>	
IMAGE SPLICING DETECTION BASED ON GENERAL PERSPECTIVE CONSTRAINTS	103
<i>M. Iuliani, G. Fabbri, A. Piva</i>	
WINDOWED DMD AS A MICROTTEXTURE DESCRIPTOR FOR FINGER VEIN COUNTER-SPOOFING IN BIOMETRICS	109
<i>S. Tirunagari, N. Poh, M. Bober, D. Windridge</i>	
RECONSTRUCTION OF SMARTPHONE IMAGES FOR LOW RESOLUTION IRIS RECOGNITION	115
<i>F. Alonso-Fernandez, R. Farrugia, J. Bigun</i>	
PRACTICABILITY STUDY OF ANDROID VOLATILE MEMORY FORENSIC RESEARCH	121
<i>P. Wachter, M. Gruhn</i>	

FULL-DUPLEX VS. HALF-DUPLEX SECRET-KEY GENERATION	127
<i>H. Vogt, A. Sezgin</i>	
AUTOMATIC CONTRAST ENHANCEMENT USING REVERSIBLE DATA HIDING	133
<i>S. Kim, R. Lussi, X. Qu, H. Kim</i>	
DETECTION AND SEGMENTATION OF LATENT FINGERPRINTS	138
<i>X. Yang, J. Feng, J. Zhou, S. Xia</i>	
INFORMATION-THEORETICAL LIMITS OF ACTIVE CONTENT FINGERPRINTING IN CONTENT-BASED IDENTIFICATION SYSTEMS	144
<i>F. Farhadzadeh, F. Willems, S. Voloshynovskiy</i>	
GENERAL-PURPOSE IMAGE FORENSICS USING PATCH LIKELIHOOD UNDER IMAGE STATISTICAL MODELS	150
<i>W. Fan, K. Wang, F. Cayre</i>	
TRAP: USING TARGETED ADS TO UNVEIL GOOGLE PERSONAL PROFILES	156
<i>M. Conti, V. Cozza, M. Petrocchi, A. Spognardi</i>	
PRIVACY, EFFICIENCY & FAULT TOLERANCE IN AGGREGATE COMPUTATIONS ON MASSIVE STAR NETWORKS	162
<i>S. Rane, J. Freudiger, A. Brito, E. Uzun</i>	
OPTIMIZING POOLING FUNCTION FOR POOLED STEGANALYSIS	168
<i>T. Pevny, I. Nikolaev</i>	
FORENSICS OF HIGH-QUALITY JPEG IMAGES WITH COLOR SUBSAMPLING	174
<i>M. Carnein, P. Schottle, B. Rohme</i>	
INTEGRATING RARE MINUTIAE IN GENERIC FINGERPRINT MATCHERS FOR FORENSICS	180
<i>R. Krish, J. Fierrez, D. Ramos</i>	
BINARY FINGERPRINTING CODES - CAN WE PROVE THAT SOMEONE IS GUILTY?!	186
<i>M. Fernandez, E. Egorova, G. Kabatiansky</i>	
DECISION TREE-BASED DETECTION OF DENIAL OF SERVICE AND COMMAND INJECTION ATTACKS ON ROBOTIC VEHICLES	190
<i>T. Vuong, G. Loukas, D. Gan, A. Bezemskij</i>	
ROBUST PUF BASED AUTHENTICATION	196
<i>A. Grigorescu, H. Boche, R. Schaefer</i>	
IDENTIFICATION OF PICTORIAL MATERIALS BY MEANS OF OPTIMIZED MULTISPECTRAL REFLECTANCE IMAGE PROCESSING	202
<i>L. Pronti, P. Ferrara, F. Uccheddu, A. Pelagotti, A. Piva</i>	
A POPULATION OF EAGLES, HORSES, AND MOLES: PERCEPTUAL SENSITIVITY TO WATERMARK DISPARITY COHERENCE	208
<i>H. Faridul, G. Doerr</i>	
THE INFLUENCE OF SEGMENTATION ON INDIVIDUAL GAIT RECOGNITION	214
<i>N. Jia, V. Sanchez, C. Li, H. Mansour</i>	
IMPACT OF INCOMPLETE KNOWLEDGE ON SCANNING STRATEGY	220
<i>A. Garnaev, W. Trappe</i>	
SPLICEBUSTER: A NEW BLIND IMAGE SPLICING DETECTOR	226
<i>D. Cozzolino, G. Poggi, L. Verdoliva</i>	
VSIG: HAND-GESTURED SIGNATURE RECOGNITION AND AUTHENTICATION WITH WEARABLE CAMERA	232
<i>H. Sajid, S. Cheung</i>	
SECURE MODULAR HASHING	238
<i>A. Jimenez, B. Raj, J. Portelo, I. Trancoso</i>	
SOME APPLICATIONS OF VERIFIABLE COMPUTATION TO BIOMETRIC VERIFICATION	244
<i>J. Bringer, H. Chabane, F. Kraiem, R. Lescuyer, E. Soria-Vazquez</i>	
WRISTSNOOP: SMARTPHONE PINS PREDICTION USING SMARTWATCH MOTION SENSORS	250
<i>A. Sarkisyan, R. Debbiny, A. Nahapetian</i>	
WHICH DATASET IS THIS IRIS IMAGE FROM?	256
<i>S. El-Naggar, A. Ross</i>	
DETECTION OF INTEREST FLOODING ATTACKS IN NAMED DATA NETWORKING USING HYPOTHEIS TESTING	262
<i>T. Nguyen, R. Cogranne, G. Doyen, F. Retraint</i>	
OPTIMUM REVERSIBLE DATA HIDING AND PERMUTATION CODING	268
<i>F. Balado</i>	

CAMERA MODEL IDENTIFICATION FRAMEWORK USING AN ENSEMBLE OF DEMOSAICING FEATURES	272
<i>C. Chen, M. Stamm</i>	
MULTICASTING WITH UNTRUSTED RELAYS: A NONCOHERENT SECURE NETWORK CODING APPROACH	278
<i>T. Liu, S. Lin, Y. Hong</i>	
DETECTION GAMES WITH A FULLY ACTIVE ATTACKER	284
<i>B. Tondi, M. Barni, N. Merhav</i>	
ON THE EFFECTIVENESS OF META-DETECTION FOR COUNTERING ORACLE ATTACKS IN WATERMARKING	290
<i>B. Tondi, P. Comesana-Alfaro, F. Perez-Gonzalez, M. Barni</i>	
WORST-CASE SECRECY RATES IN MIMOME SYSTEMS UNDER INPUT AND STATE CONSTRAINTS	296
<i>A. Wolf, E. Jorswieck, C. Janda</i>	
A SECOND LOOK AT FIRST SIGNIFICANT DIGIT HISTOGRAM RESTORATION	302
<i>M. Kirchner, S. Chakraborty</i>	
COUNTERFEIT DETECTION USING PAPER PUF AND MOBILE CAMERAS	308
<i>C. Wong, M. Wu</i>	
FRAGILE SENSOR FINGERPRINT CAMERA IDENTIFICATION	314
<i>E. Quiring, M. Kirchner</i>	
Author Index	