PROCEEDINGS

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Electronic Imaging

SCIENCE AND TECHNOLOGY

14–18 February 2016 • San Francisco, CA, USA

Media Watermarking, Security, and Forensics 2016

Editors: **Adnan M. Alattar,** Digimarc Corp. (USA), and
Nasir D. Memon, Polytechnic Institute of New York Univ. (USA)

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Media Watermarking, Security, and Forensics 2016

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Media Watermarking, Security, and Forensics 2016

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Monday, February 15, 2016

Forensics

Session Chair: Sebastiano Battiato, University of Catania (Italy)

8:50 – 10:10 am
Continental Ballroom 3

8:50
MWSF Conference Opening Remarks

8:55   MWSF-066
Ambiguity attack on the integrity of a genuine picture by producing another picture immune to generic digital forensic test, *Jun Yu[1], Enping Li[2], and Scott Craver[3]; [1]Marvell Semiconductors, Inc., [2]Eastern Kentucky University, and [3]Binghamton University (USA)*

9:20   MWSF-067
Compression forensics beyond the first significant digit, *Sujoy Chakraborty and Matthias Kirchner, Binghamton University (USA)*

9:45   MWSF-068
Detecting copy-move forgeries in scanned text documents, *Svetlana Abramova and Rainer Böhme, Universität Innsbruck (Austria)*

10:10 – 10:30 am   Coffee Break

Watermarking

Session Chair: Gaurav Sharma, University of Rochester (USA)

10:30 am – 12:10 pm
Continental Ballroom 3

10:30   MWSF-069
Improvement of trade-off between compression tolerance and perceptibility of video watermark for broadcasting, *Keizo Kato, Kensuke Kuraki, and Ryuta Tanaka, Fujitsu Laboratories Ltd. (Japan)*

10:55   MWSF-070
Optically written watermarking technology using temporally and spatially luminance-modulated light, *Kohei Ohshita, Hiroshi Unno, and Kazutake Uehira, Kanagawa Institute of Technology (Japan)*

11:20   MWSF-071
Maximal stable extremal regions for robust video watermarking, *Waldemar Berchtold, Marcel Schaefer, and Martin Steinebach, Fraunhofer SIT (Germany)*

11:45   MWSF-072
Telltale watermarks for counting JPEG compressions, *Matthias Carnein[1], Pascal Schöttle[2], and Rainer Böhme[2]; [1]University of Münster (Germany) and [2]Universität Innsbruck (Austria)*

12:10 – 2:00 pm   Lunch Break

EI 2016 Opening Plenary and Symposium Awards
Session Chair: Choon-Woo Kim (Inha University)
2:00 – 3:00 PM
Continental Ballroom 5

Illuminating a bright future for medicine, *Audrey K. Bowden, Stanford University (USA)*

3:00 – 3:30 pm   Coffee Break

Identification

Session Chair: Adnan Alattar, Digimarc Corporation (USA)

3:30 – 4:00 pm
Continental Ballroom 3

3:30   MWSF-073

Attacks on speaker identification systems constrained to speech-to-text decoding, *Alireza Farrokh Baroughi[1], Daniel Douglas[2], and Scott Craver[1]; [1]Binghamton University and [2]Temple University (USA)*

5:00 – 6:00 pm   EI 2016 Symposium Reception

Tuesday, February 16, 2016

Steganography

Session Chair: Jessica Fridrich, SUNY Binghamton (USA)

8:50 – 10:10 am
Continental Ballroom 3

8:50
Opening Remarks

8:55   MWSF-074

Avoiding detection on twitter: embedding strategies for linguistic steganography, *Alex Wilson and Andrew Ker, University of Oxford (United Kingdom)*

9:20   MWSF-075

Separating steganographic images by embedding key, *Tu-Thach Quach, University of New Mexico (USA)*

9:45   MWSF-076

Toss that BOSSbase, Alice!, *Vahid Sedighi[1], Jessica Fridrich[1], and Rémi Cogranne[2]; [1]Binghamton University (USA) and [2]Université de Technologie Troyes (France)*

10:10 – 10:30 am   Coffee Break

Steganalysis

Session Chair: Vojtech Holub, Digimarc Corporation ()

10:30 am – 12:10 pm
Continental Ballroom 3

10:30   MWSF-077

Accelerating the DCTR features extraction for JPEG steganalysis based on CUDA, *Chao Xia, Qingxiao Guan, Xianfeng Zhao, and Yong Deng, Chinese Academy of Sciences (China)*

10:55   MWSF-078

Deep learning is a good steganalysis tool when embedding key is reused for different images, even if there is a cover source-mismatch, *Lionel Pibre[2,3], Jérôme Pasquet[2,3], Dino Ienco[2,3], and Marc Chaumont[1,2,3], LIRMM; [1]Université de Nîmes, [2]Université Montpellier, [3]CNRS (France)*

11:20   MWSF-079

Malicons: Detecting Payload in Favicons, *Tomáš Pevný[1,2]; Martin Kopp[2,1]; Jakub Křoustek[3]; Andrew D. Ker[4]; [1]Czech Technical University in Prague (Czech Republic); [2]Cisco R&D Center in Prague, Cisco Systems, Inc. (Czech Republic); [3]AVG Technologies (Czech Republic); [4]Oxford University (UK)*

11:45   MWSF-080

Improving selection-channel-aware steganalysis features, *Tomáš Denemark and Jessica Fridrich, Binghamton University (USA); Pedro Comesaña-Alfaro, University of Vigo (Spain)*

12:10 – 2:00 pm   Lunch Break

EI 2016 Tuesday Plenary and Symposium Awards
Session Chair: Nitin Sampat (Rochester Institute of Technology)
2:00 – 3:00 PM
Continental Ballroom 5

Pushing computational photography deeper into imaging system design, *Ren Ng, University of California, Berkeley (USA)*

3:00 – 3:30 pm   Coffee Break

Keynote: Security, Privacy, and Regulatory Challenges of Unmanned Aerial Vehicle Integration
Session Chair: Nasir Memon, New York University (USA)
3:30 – 4:30 pm
Continental Ballroom 3

MWSF-081

Security, privacy, and regulatory challenges of unmanned aerial vehicle integration, *Evan Carr, AppFolio Inc. (USA)*

EI 2016 Symposium Demonstration Session and Exhibit Hall Happy Hour
5:30 – 7:00 PM
Continental Ballroom Foyer

Wednesday, February 17, 2016

Banknote Security

Session Chair: Scott Craver, Binghamton University (USA)

8:50 – 10:10 am
Continental Ballroom 3

8:50   MWSF-082

Banknote crease detection and banknote fitness classification, *Reinhold Huber-Mörk, and Johannes Ruisz, Austrian Institute of Technology (Austria)*

9:15   MWSF-083

Forensic authentication of banknotes on mobile phones, *Thomas Dewaele, Maurits Diephuis, Taras Holotyak and Slava Voloshynovskiy, Université de Genève (Switzerland)*

9:40   MWSF-084

Security evaluation based on the analytic hierarchy process for first-line anti-counterfeit elements, *Manabu Yamakoshi, Junichi Tanaka, and Hiroshi Iwasaki, National Printing Bureau of Japan (Japan)*

10:10 – 10:30 am   Coffee Break

Fingerprinting

Session Chair: Matthias Kirchner, Binghamton University (USA)

10:30 am – 12:10 pm
Continental Ballroom 3

10:30   MWSF-085
A novel attack model for collusion secure fingerprinting codes, *Marcel Marcel Schäfer[1], Waldemar Berchtold[1], Teetje Stark[2], Nils Reimers[3], and Martin Steinebach[1]; [1]Fraunhofer-Institute SIT, [2]Freie Universität Berlin, and [3]Technische Universität Darmstadt (Germany)*

10:55   MWSF-086
Effect of compression on sensor-fingerprint based camera identification, *Miroslav Goljan[1], Mo Chen[1], Pedro Comesaña[2], and Jessica Fridrich[1]*

11:20   MWSF-087
Patch-based desynchronization of digital camera sensor fingerprints, *John Entrieri and Matthias Kirchner, Binghamton University (USA)*

11:45   MWSF-088
Robust smartphone fingerprint by mixing device sensors features for mobile strong authentication, *Irene Amerini[1], Paolo Bestagini[2], Luca Bondi[2], Roberto Caldelli[1], Matteo Casini[1], and Stefano Tubaro[1]; [1]University of Florence, [2]Polytechnic of Milano, and [3]CNIT - National Interuniversity Consortium for Telecommunications (Italy)*

12:10 – 2:00 pm   Lunch Break

EI 2016 Wednesday Plenary and Symposium Awards
Session Chair: Choon-Woo Kim (Inha University)
2:00 – 3:00 PM
Continental Ballroom 5

Intel® RealSense Technology: Adding human-like sensing and interactions to computing devices, *Achin Bhowmik, Intel Corporation (USA)*

3:00 – 3:30 pm   Coffee Break

Noise & Quality

Session Chair: Marc Chaumont, LIRMM Montpellier France (France)

3:30 – 4:30 pm
Continental Ballroom 3

3:30   MWSF-089
Experimental study of Print-and-Scan impact as random process, *Iuliia Tkachenko[1,2], William Puech[1], Olivier Strauss[1], and Christophe Destruel[2]; [1]University of Montpellier and [2]Authentication Industries (France)*

3:55   MWSF-090
Quality metric for 2D textures on 3D objects, *Waldemar Berchtold, Marcel Schaefer, Sascha Wombacher, and Martin Steinebach, Fraunhofer SIT (Germany)*

4:20
Media Watermarking, Security, and Forensics Concluding Remarks

EI 2016 Symposium Interactive Papers Session
5:30 – 7:00 PM
Continental Ballroom 6