

DIGITAL & MULTIMEDIA SCIENCES

Thursday

Poster Session

11:30 am—1:00 pm	C1	WITHDRAWN
11:30 am—1:00 pm	C2	CrimeEye: A Deep Learning Approach to Suspect Identification From Low-Resolution CCTV Footage Abhishek Kumar Singh, BEng*; Navdha Bhardwaj, MSc
11:30 am—1:00 pm	C3	The Role of Digital Forensics in Identifying Identity Theft Oreoluwa Ladoja, MSc*; Ashraf Mozayani, PharmD; Jasmine Drake, PhD

Facing the Facts

Moderator: Umit Karabiyik, PhD

Co-Moderator: David Notowitz, BS

8:15 am—8:35 am	C4	Facial Identification: Standardization, Certification, and Beyond Steven Johnson, BS*; Richard Vorder Bruegge, PhD; Lora Sims
8:35 am—8:55 am	C5	Emerging Paradigms in Forensic Facial Comparison Through Artificial Intelligence Enrique Bermejo, PhD; M. Alejandra Guativonza, MA; Oscar Ibáñez, PhD*; Antonio D. Villegas, MSc; Alejandro Manzanares, MSc; Daniel García, BSc
8:55 am—9:15 am	C6	The Ethical Concerns of Artificial Intelligence in Forensic Science Damini Siwan, MSc*; Vishal Sharma, PhD; Kewal Krishan, PhD; Arun Garg, MDS
9:15 am—9:35 am	C7	Advanced Methods in Image Forgery Detection: Bridging Fundamentals and Emerging Technology Chad Johnson, PhD*
9:35 am—9:55 am	C8	Exploring the Impact of PDF Embedding on BMP and GIF Image Integrity and Authentication: The Initial Phase for Forensic Sciences Gregory Wales, DSc*; Gregory Wales, MS
9:55 am—10:10 am		BREAK

Sound Check

Moderator: Nicole Odom, MSFS

Co-Moderator: Lucky Onyekwelu-Udoka, PhD

10:10 am—10:30 am	C9	The Sound of Deception: Voice and Language Markers in Emotionally Charged Lies Sunčica Kuzmić, MASc*; Ivan Jerković, PhD; Andrea Ledić, MSc
10:30 am—10:50 am	C10	Speaker-Specific Deepfake Detection in Conversational Audio Analysis Lucky Onyekwelu-Udoka, MASc*; Yong Guan, PhD (FSF Emerging Forensic Scientist Award Oral Presentation)
10:50 am—11:10 am	C11	Navigating Moral Quandaries on the Front Lines: Lessons From 25 Years of Audio and Video Forensics With Attorneys and Experts David Notowitz, BA*

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11:10 am—11:30 am	C12	An AI-Based Speech Analysis Technology for Courtroom Media Transcripts Joseph Remy, JD; Aakash Taneja, PhD; Zachary Lord, BS*; Melany Cruz, BS
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11:30 am—1:00 pm	BREAK
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Fake It Until You Make It

Moderator: Catalin Grigoras, PhD

Co-Moderator: Shuangteng Zhang, PhD

1:00 pm—1:20 pm	C13	The Forensic-AI Fusion Toolbox: A Multi-Modal Framework for the Principled Detection of Advanced Deepfakes Zeno Geradts, PhD* Stijn Van Lierop, MSc
1:20 pm—1:40 pm	C14	A Holistic and Pragmatic Approach to Deepfake Forensics Marco Fontani, PhD*; Blake Sawyer, BBA; Martino Jerian, MSc
1:40 pm—2:00 pm	C15	Advances on Structure and Format Analysis for Media Forensics Authentication Cole Whitecotton, MSc*; Catalin Grigoras, PhD*
2:00 pm—2:20 pm	C16	Evaluating the Use of a Novel Expert System for Media Authentication Results Interpretation Brandon Epstein, MS*; Bertram Lyons, MA*
2:20 pm—2:35 pm	BREAK	

Frames, Clicks, and Clues

Moderator: Joseph Remy, JD

Co-Moderator: Yansi Keim, PhD

2:35 pm—2:55 pm	C17	A Quantitative Study of Frame Extraction Methods, Tools, and Their Impact on Extracted Frame Quality From High-Efficiency Video Coding Videos Susan Kost, MSc*; Catalin Grigoras, PhD; Gregory Wales, DSc; Cole Whitecotton, MSc
2:55 pm—3:15 pm	C18	Exploring Dropbox Image Downloads to iPhone Via Safari: File System vs. Camera Roll Validation Study Gregory Wales, DSc*; Alexander Nash, MS*; Co-Author: Tierney Moe, BS
3:15 pm—3:35 pm	C19	Uncovering User Behavior: AI-Based Timeline Reconstruction From Mobile Evidence Chen Shi, MS*; Yong Guan, PhD
3:35 pm—3:55 pm	C20	The Human Link in an Automated Era: Forensic Expertise in the Peritus Framework Dineusa Amaral, MBA*; Cristiane Barbosa, MA*; Anna Beatriz Rodrigues Geranio

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Friday

Catch Me if You Can

Moderator: Jason Lewis, PhD

Co-Moderator: Patrick Siewert, BS

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| 8:00 am – 8:20 am | C21 | Garmin Forensics: A Study on the Device's Data Integrity and Reliability in Court
Vinicius Lima, PhD*; Akif Ozer, MS; Umit Karabiyik, PhD |
| 8:20 am—8:40 am | C22 | iGEM: A Multi-Device Forensic Visualization Software for Geolocation and Digital Evidence Matching
Xiao Hu, MS*; Akif Ozer, MS*; Marcus Rogers, PhD; Umit Karabiyik, PhD*
(FSF Emerging Forensic Scientist Award Oral Presentation) |
| 8:40 am—9:00 am | C23 | Comparing Smart Phone Geolocation Accuracy: Forensic Analysis of iOS and Android Location Artifacts
Jeff Rutherford, BSc* |
| 9:00 am—9:20 am | C24 | The Dark Side of Discounts: How Temu Handles Your Data
Sonali Tyagi, MS*; Umit Karabiyik, PhD*
(FSF Emerging Forensic Scientist Award Oral Presentation) |
| 9:20 am—9:40 am | C25 | Leave a Message—Where?: A Study of Apple's Voicemail Databases
Kaylee Schoepe, MS*; Chad Stedl, BS; Andrew Crouse, BA*; Brian Smith, BS |
| 9:40 am—9:50 am | | BREAK |

Man Versus Machine

Moderator: Xiao Hu, MS

Co-Moderator: Michael McGowan, BA

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| 9:50 am—10:10 am | C26 | Forensic Analysis and Privacy Implications of LLM Mobile Apps: A Case Study of ChatGPT, Copilot, and Gemini
Sonali Tyagi, MS*; Yufeng Gong, MS*; Umit Karabiyik, PhD*
(FSF Emerging Forensic Scientist Award Oral Presentation) |
| 10:10 am—10:30 am | C27 | From Screen to Scene: An In-Depth Forensic Analysis on DeepSeek
Yufeng Gong, MS*; Sonali Tyagi, MS*; Vaishnavi Mahindra, MS*; Umit Karabiyik, PhD*
(FSF Emerging Forensic Scientist Award Oral Presentation) |
| 10:30 am—10:50 am | C28 | Reading Between the Handles: How Bad Actors on Reddit and Darknet Discuss AI/LLM Misuse for CSEA
Sonali Tyagi, MS*; Kathryn Seigfried-Spellar, PhD*
(FSF Emerging Forensic Scientist Award Oral Presentation) |
| 10:50 am—11:10 am | C29 | Bytes of Evidence: Examining Technology-Facilitated Abuse Against Women and Children
Neha Verma, PhD* |
| 11:10 am—11:30 am | C30 | Improving CyberTipline Processing: Leveraging Machine Learning and OSINT for Enhanced ICAC Response
Nina Matulis, MS*; Marcus Rogers, PhD |
| 11:30 am—1:00 pm | | BREAK |

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Show Me the Money

Moderator: Sonali Tyagi, MS

Co-Moderator: Babangida Bappah

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| 1:00 pm—1:20 pm | C31 | Exploring the Use, Challenges, and Opportunities of Generative AI in Digital Forensics
Vir Phoha, PhD* |
| 1:20 pm—1:40 pm | C32 | Can AI Explain Fraud? Explainable AI for Document Fraud Detection in Digital Forensics
Yujin Lee, BEng*; Umit Karabiyik, PhD; Marcus Rogers, PhD |
| 1:40 pm—2:00 pm | C33 | Improving Learner Resilience to Online Fraud Through Immersive Roleplaying Experiences: A Transformative Learning Approach
Tatiana Ringenberg, PhD*; Paul Thomas, PhD; Alejandra Magana, PhD |
| 2:00 pm—2:20 pm | C34 | Weighted Anomaly Detection and Cross-Chain Arbitrage Analysis: A Blockchain Forensics Framework
Xiao Hu, MS*; Umit Karabiyik, PhD*
<i>(FSF Emerging Forensic Scientist Award Oral Presentation)</i> |
| 2:20 pm—2:35 pm | | BREAK |

Method to the Madness

Moderator: Kyp Stavrou, BA

Co-Moderator: Tatiana Ringenberg, PhD

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| 2:35 pm—2:55 pm | C35 | Intent in Isolation: Forensics of Echo Chamber Activity
Vaishnavi Mahindra, MS*; Marcus Rogers, PhD |
| 2:55 pm—3:15 pm | C36 | Scalpel3: A New High-Performance Carving Architecture for Recovering Fragmented Files
Golden Richard, PhD*; James Ghawaly, PhD; Karley Waguespack, MS |
| 3:15 pm—3:35 pm | C37 | A Research-Focused Framework for Empirical Method Validation in Digital and Multimedia Evidence
Gregory Wales, DSc* |
| 3:35 pm—3:55 pm | C38 | Applied Gamification Research in Digital Forensics Higher Education for Knowledge and Skill Retention
Yansi Keim, PhD*; Marcus Rogers, PhD |