



TRUSTWISE

AI-Enabled Trusted Digital Forensics and Digital Content Authentication: For Safe Societies

The exponential growth of synthetic media, deepfakes, and deception manipulation poses a serious threat to democratic processes, public trust, and individual security. In response to this challenge, current forensic and authentication tools are often fragmented, unscalable, and their findings lack legal admissibility in court.

TRUSTWISE combines AI for detecting manipulated content, blockchain technology for an immutable chain-of-custody, and Explainable AI (XAI) to ensure transparency and fairness. The resulting system is designed to provide law enforcement, forensic experts, and media organizations with a reliable, scalable, and legally sound tool to preserve the integrity of digital evidence and build safer societies.

Scientific and Technical Objectives

- Develop AI/ML algorithms for the detection of manipulated or synthetic content (video, audio, image, text).
- Design a blockchain-enabled chain-of-custody system that ensures the integrity and admissibility of digital evidence in court.
- Build real-time forensic analysis tools tailored to law enforcement agencies (LEAs) and judicial actors.
- Implement XAI mechanisms to ensure transparency, fairness, and legal validity in forensic outputs.
- Develop a GDPR-compliant infrastructure for secure evidence management and cross-border data sharing.

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Societal and Policy Objectives

- Increase public trust in digital information ecosystems by improving verification capabilities.
- Provide guidelines, training, and capacity building for LEAs, forensic laboratories, and members of the judiciary.
- Provide policy recommendations to support the adoption of reliable forensic standards across the EU.

Concept and Methodology

- Multimedia Forensics: AI models for the detection of image, video, audio, and text forgery.
- AI-based models for deception detection.
- Blockchain Integration: An immutable ledger for the preservation and sharing of digital evidence.
- Forensic Toolbox: A user-friendly platform for LEAs, courts, and media verifiers.
- Cross-Border Testing: Pilots verifying interoperability and legal admissibility across multiple EU countries.
- Human-Centred AI: Ensuring ethical compliance, avoiding bias, and ensuring explainability.

How will it work?

