Provenance & Watermarking

provenance-watermarking · safety · concept

Source: https://policywindow.org/wiki/provenance-watermarking

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Summary

Cryptographic or perceptual signals embedded in AI-generated content (image, audio, video, text) that enable downstream detection of synthetic origin.

At a glance

Used by

6 instrument(s)

Related concepts

frontier-tier, model-card

Primary source

C2PA Technical Specification v2.1 (the most widely adopted provenance standard)

Details

Provenance and watermarking sit at the intersection of authenticity verification (proving an artifact's source) and AI-generation disclosure (signalling that content is synthetic). Two technical lineages converge: (a) cryptographic provenance — content-credential standards like C2PA (Coalition for Content Provenance and Authenticity) that sign metadata into media at capture time; (b) statistical / robust watermarking — perturbation patterns embedded in pixels/audio/text that survive recompression, paraphrasing, or screen-capture.

Regulatory coverage is the most cross-jurisdictionally aligned of any AI-governance domain. EU AI Act Art. 50(4) requires deepfake disclosure and watermarking for AI-generated content. US EO 14110 §4.5 mandated NIST guidance on content authentication (issued 2024; mandate lapsed when EO 14148 revoked EO 14110, Jan 2025). China's Deep Synthesis Provisions (Art. 16, 2022) require explicit labelling of synthetic content. G7 Hiroshima §5 calls for interoperable provenance mechanisms. Despite this alignment, NO interoperability standard has been agreed: C2PA, SynthID (Google DeepMind), Stable Signature (Meta), and the various per-vendor watermarks remain mutually incompatible. This is the wiki's most actively contested implementation gap.

How to cite this article

APA

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CHICAGO

Policy Window. n.d.. "Provenance & Watermarking." Wiki article (Concept). https://policywindow.org/wiki/provenance-watermarking.

HARVARD

Policy Window (n.d.) 'Provenance & Watermarking', Wiki article — Concept, available at: https://policywindow.org/wiki/provenance-watermarking.

OSCOLA

Policy Window, 'Provenance & Watermarking' (Wiki article — Concept, n.d.) <https://policywindow.org/wiki/provenance-watermarking> accessed [date].

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