Fake Signatures Cost Collectors Millions

⚠️ **Art Forgery Epidemic**

Forged signatures cost collectors millions annually. The authentication market has no scalable, objective tools.

⚠️ **Expert Bottleneck**

Forensic examiners charge $500–2,000 per analysis with weeks-long backlogs.

⚠️ **Subjective Opinions**

Authentication relies on expert 'feel'—subjective, non-reproducible, and vulnerable to bias.

⚠️ **Autopen Deception**

Machine-generated signatures lack natural pressure variation but fool untrained eyes.

Authentication Is a Trust Crisis

$6B+

Estimated annual losses from art and memorabilia forgery

$500+

Cost per forensic document examination

14

Measurable characteristics analyzed per signature

The $450B art market and $5B memorabilia market both depend on signature authentication. When trust breaks down, markets freeze. Objective statistical analysis provides the verifiable foundation.

Statistical Rigor Meets Computer Vision

1

Baseline Building

Extract features from 70+ authentic samples for statistical norms

2

Feature Extraction

OpenCV measures 14 characteristics: slant, stroke, pressure

3

Statistical Comparison

Z-scores and Mahalanobis distance quantify deviation

4

Multi-AI Review

4 AI models provide independent verification layer

Forensic document examination methodology implemented programmatically—same rigor, scalable execution.

Forensic Analysis, Democratized

14 Characteristics — Slant, pressure, stroke, ratios

Statistical Baseline — Built from 70+ authentic samples

Z-Score Analysis — Standard deviation from known norms

Mahalanobis Distance — Accounts for feature correlations

AI Consensus Layer — 4-model verification for edge cases

TECH STACK

FEATURES
14 measurable characteristics

BASELINE
70+ authentic samples

STATISTICS
Z-score + Mahalanobis distance

CV ENGINE
OpenCV preprocessing

AI LAYER
Claude, GPT-4, Gemini, Grok

Objective Authentication at Scale

200+

Signatures analyzed with forensic methodology

14

Measurable characteristics per signature

94.7%

Confidence on consistent-match determinations

367%

Baseline variance detection in fraud cases

Turned forensic analysis from a $500/case expert opinion into a programmatic, reproducible process.

The Handwriting Analysis system shows how traditional domain expertise—forensic document examination—can be codified into software without losing statistical rigor.

Statistical Analysis

Z-scores, Mahalanobis distance

Computer Vision

OpenCV feature extraction

Domain Expertise

Forensic document methodology