

Protect your journal's integrity with **Trust Signals**

Worried about the veracity of your manuscripts?

STEM Trust Signals lets you quickly analyze signals from authoritative sources and flag hidden risks such as retractions, fake authors, or undisclosed funding—so you can make faster, evidence-based publishing decisions with confidence.



Designed for Editors

STEM Trust Signals is a comprehensive academic manuscript processing system that leverages 30+ authoritative signals, AI, and graph database technologies to provide detailed analysis of whether a manuscript and its authors are trustworthy.

Core Features

Entity Extraction

Extracts and vets authors, references, affiliations and funding information.

Author Resolution

Validates and assesses authors using cross-platform verification.

Reference Resolution

Verifies references for quality and relevancy. Checks for ethical and proper usage of citations.

Graph Database

Stores and queries manuscripts and author relationships in Neo4j for deep and shareable insights.

Additional Metadata

Funders, keywords, and other metadata are extracted and analyzed adding to the overall confidence score.

Interactive UI

Provides an intuitive interface with explorable visualizations allowing for deeper analysis.

Trust Signal Coverage

STEM Trust Signals analyzes 30+ trust indicators from authoritative sources to assess research paper credibility. These signals are organized into several categories based on their impact and importance – letting you make the call.

Four Categories, 32 Trust Signals

Author Credibility & Verification 12+ Trust Signals

Evaluates author credibility through multiple dimensions:

- Cross-platform identity verification (ORCID, Scopus, OpenAlex);
- Topic expertise alignment with manuscript subject;
- Publication productivity patterns and anomaly detection;
- Citation behavior analysis and h-index metrics;
- Career trajectory and institutional stability;
- Detection of inactive or compromised author profiles.

Protects against guest authorship, paper mills, and identity fraud.

Reference Quality & Integrity 10+ Trust Signals

Comprehensive evaluation of cited literature quality:

- Retraction and correction status monitoring;
- Journal quality assessment (DOAJ, impact factor);
- Self-citation and citation ring detection;
- Reference recency and relevance analysis;
- Open access compliance verification;
- Topical coherence with manuscript content.

Prevents citation of problematic literature and ensures foundational integrity.

Institutional Trust & Affiliations 5+ Trust Signals

Verification of institutional credentials and stability:

- Current affiliation verification (ROR identifiers);
- Institutional reputation and ranking assessment;
- Career progression and mobility patterns;
- Geographic and collaboration network analysis;
- Academic vs. industry context evaluation.

Ensures institutional accountability and detects affiliation fraud.

Transparency & Compliance 4+ Trust Signals

Comprehensive transparency and compliance checks:

- Funding acknowledgment completeness;
- Data availability statement existence;
- Clinical trial registration verification;
- Open access compliance for funded research;
- Metadata completeness and identifier usage.

Ensures research transparency and regulatory compliance.

The User Interface

The following pages show the STEM Trust Signals system in action, demonstrating the analysis of a sample manuscript on nicotine reduction and smoking alternatives.

Submission Overview

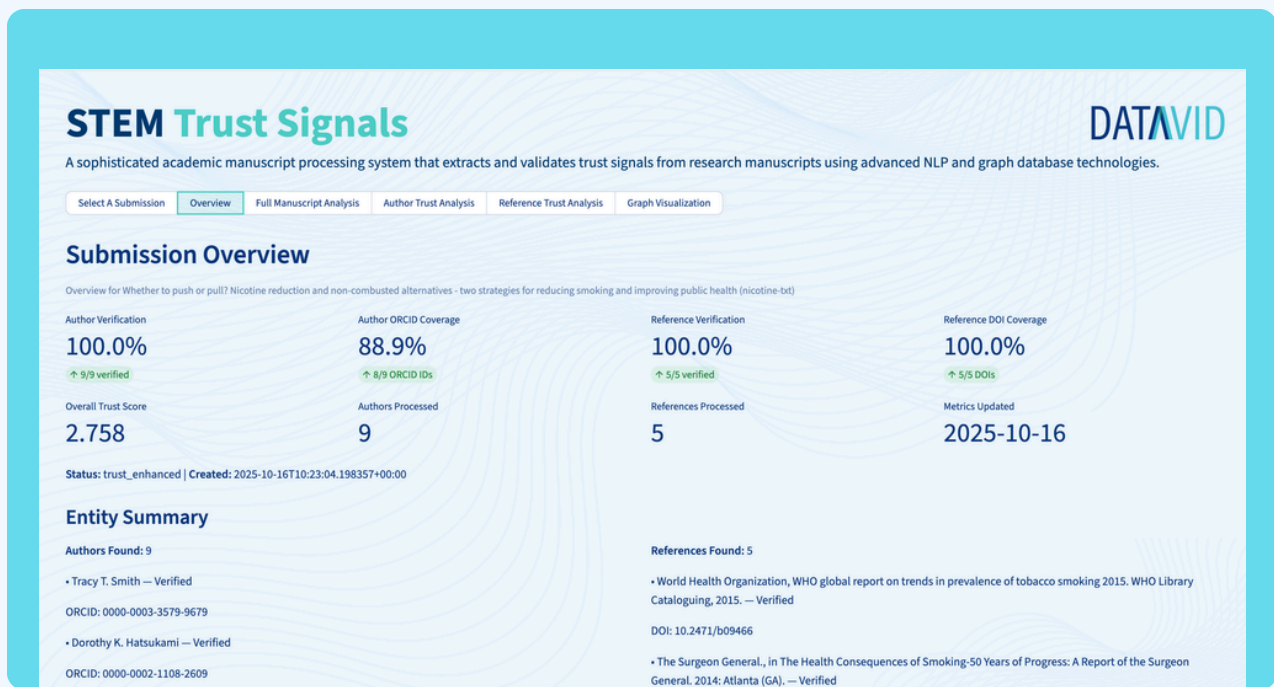


Figure 1: The Submission Overview page displays comprehensive trust metrics including author verification (100%), ORCID coverage (88.9%), reference verification (100%), and DOI coverage (100%). The overall trust score of 2.758 indicates moderate-to-low confidence for this manuscript.

Graph Visualization Overview

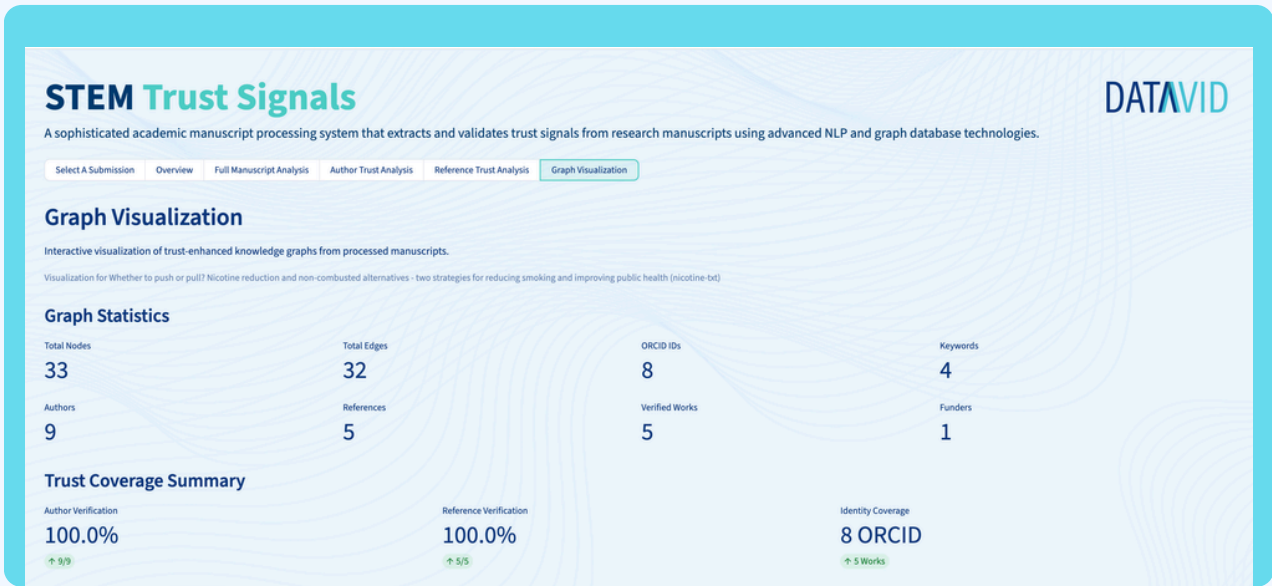


Figure 4: The Graph Visualization page provides statistics. The system displays 33 total nodes and 32 relationships, with 8 ORCID IDs, 4 keywords, 9 authors, 5 references, 5 verified works, and 1 funder identified all from a raw manuscript text.

Interactive Knowledge Graph (continued)



Figure 5: The interactive knowledge graph visualizes relationships between the manuscript (center), authors (green nodes), references (cyan nodes), ORCID IDs (orange nodes), works (yellow nodes), keywords (purple nodes), and funders. Different colors and connections to show the network of entities extracted from the manuscript.

The graph is searchable and filterable!

For Editors and Publishers

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- Help shape features that strengthen trust and transparency in scientific publishing.
- Collaborate directly with the development team and influence future directions.
- Be recognized as a founding contributor to an increasingly critical, editorial tool.
- Reduce the tedium of author and reference verification.

Help shape the future of research integrity.

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