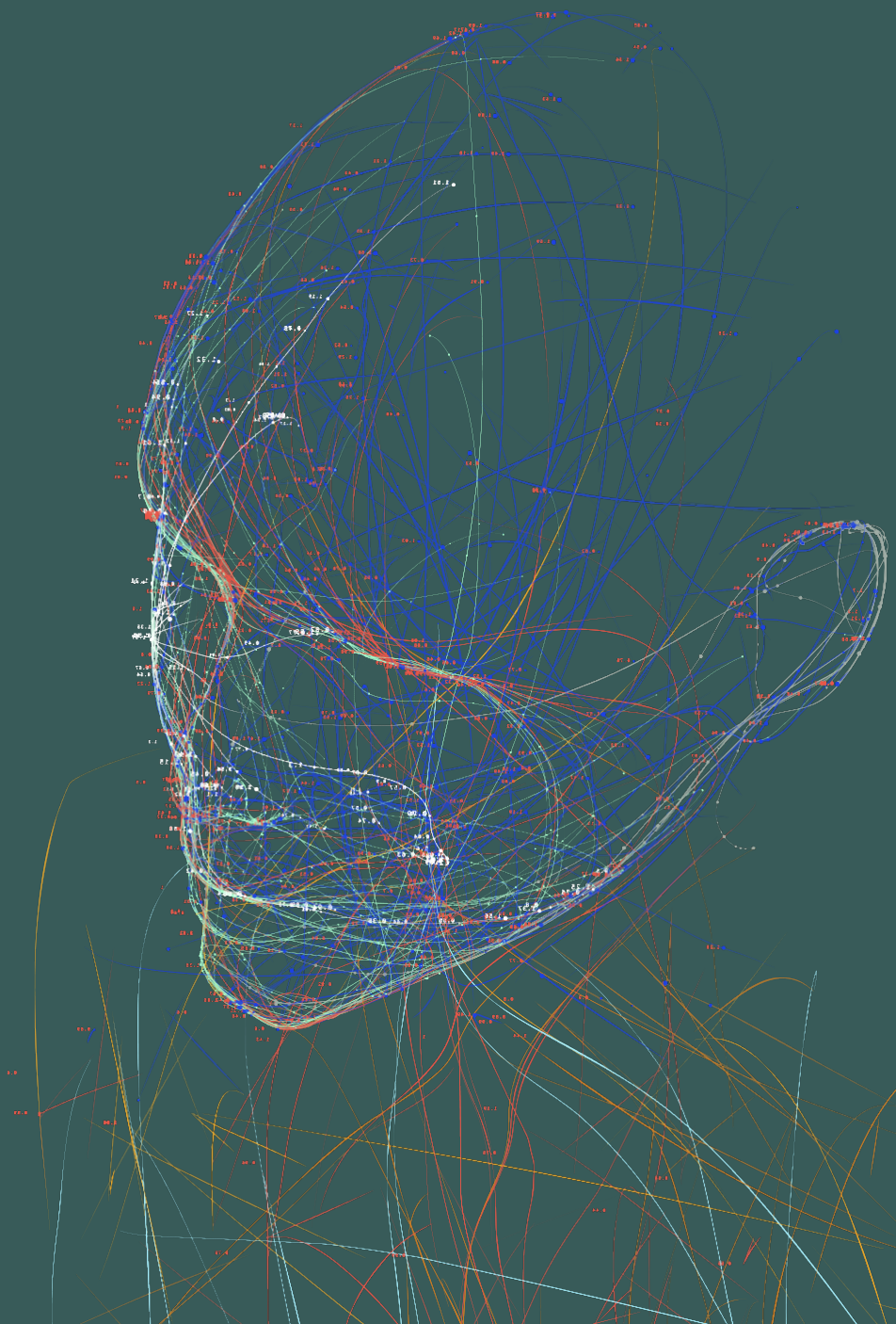
Enhanced Research Integrity with Artificial Intelligence & Machine Learning



Morressier

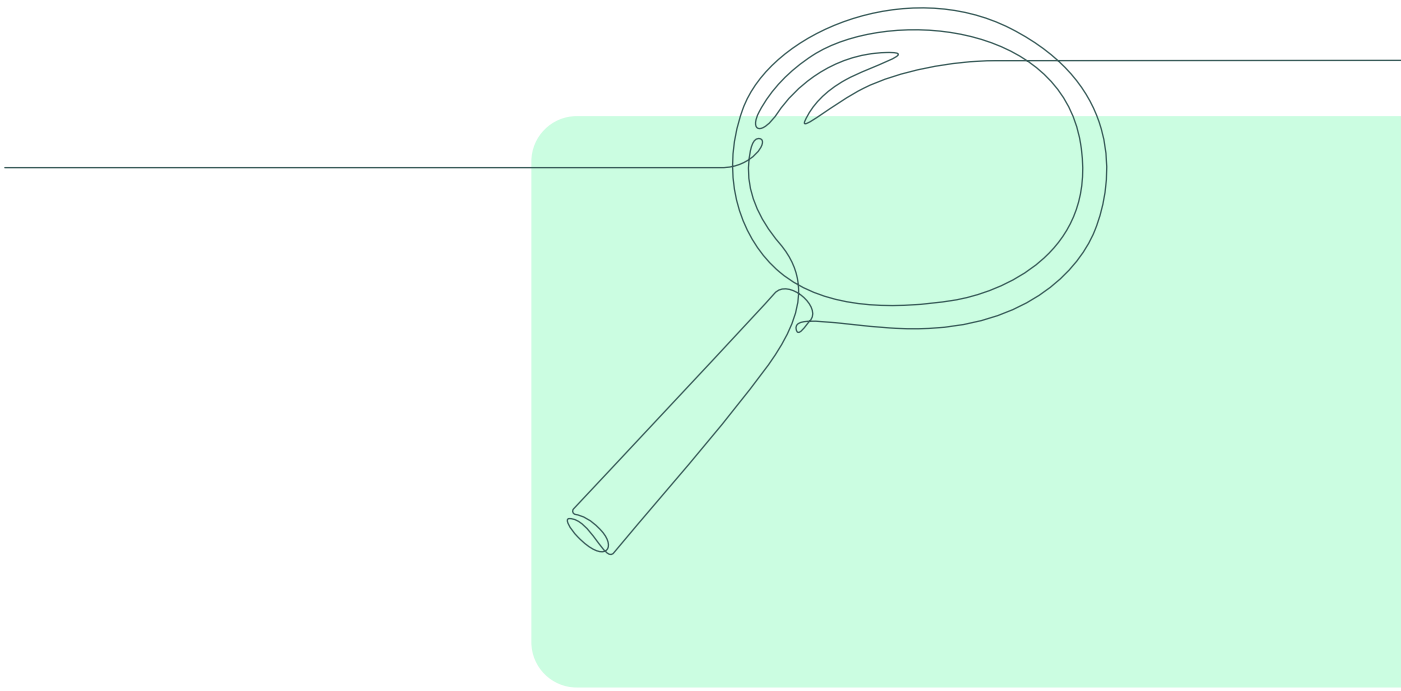
Accelerating Scientific Breakthroughs

The Scholarly publishing community is at a crossroads. The growing demand for operational scalability and reducing costs has intensified a need for accelerating time to publication. Couple that with the rise of retractions due to emerging forms of research misconduct, and the industry finds itself facing its greatest challenge in decades:

Accelerating the publishing process, at a lower cost, while maintaining high quality output.

Is Artificial Intelligence and Machine Learning the answer?

AI/ML technology is disrupting the current conditions of the industry, forcing us to rethink how research is produced, reviewed, and disseminated. This technology not only presents vast opportunities, but poses new challenges for research integrity. **How can the scientific community ensure its responsible and ethical use?**



Benefits vs Challenges of AI/ML for Scholarly Publishing

AI/ML KEY BENEFITS

Detect plagiarism and fraud before publication
High-speed and precise identification of plagiarism and other forms of academic fraud, such as manipulated data or fabricated peer reviews.

Refine peer review process
Streamline the peer review process by recommending relevant experts to review papers and point out potential issues that may have been overlooked by humans.

Simplify publishing processes
Eliminate manual tasks throughout the publishing process, such as manuscript formatting, language correction, and data analysis.

Enhance data management and analysis
Assist with data management and analysis, to discover trends, patterns, and connections that could go unnoticed by human researchers.

Improve discoverability and accessibility
Organize and classify papers in a more intuitive manner for researchers to find information.

AI/ML KEY CHALLENGES

Research fraud
AI/ML has the potential to be manipulated to produce results that are not accurate or truthful. Furthermore, AI is capable of generating scientific papers, undermining the work of researchers and presenting integrity issues.

Bias in data
AI/ML models can magnify existing biases and discrimination in data, causing ethics and validity concerns of the research.

Lack of reproducibility
The complex nature of AI/ML can make it difficult to reproduce research findings, leading to scrutiny about the reliability of the research.

Data privacy concerns
The processing of large amounts of highly sensitive data raises questions about data privacy and the safeguarding of personal information.

Intellectual property issues
AI/ML models can be easily disseminated, duplicated, and monetized, instigating debate over ownership of the research content and intellectual property rights.

How does Morressier utilize AI/ML in our platform today?

Morressier's platform harnesses the power of AI/ML tools in our suite of workflows. This helps our customers accelerate scientific breakthroughs by automating the sharing, curating, and publishing the highest quality scientific research.

AI/ML FEATURES CURRENTLY AVAILABLE

Fraud and plagiarism detection

Submissions to the Morressier platform are run through AI tools including iThenticate and our proprietary data mining algorithms.

Citation manipulation

Identify articles that cite the same author's research multiple times, allowing the option to exclude these articles from publication.

Automatic author ID verification

Confirm authors and co-author identities with a multi-step automatic verification process, using Ringgold, ORCiD and other industry standards.

Automatic assignment of DOIs

Discover, share, and track research throughout the lifecycle with automatic assignment of your DOIs to early-stage research.

Automatic assignment of reviewers

Autopilot optimizes the distribution of abstracts or papers for peer review, by analyzing reviewers' chosen topics of expertise, relative workloads, and potential conflicts of interest.

How does Morressier envision AI/ML in our platform in the near term?

Our planned advancements for the platform center around research integrity and minimizing the risk of retractions by employing AI/ML at critical stages throughout the process.

AI/ML INTEGRITY CHECK FEATURES IN DEVELOPMENT

Automated manuscript QC (Pre-flight checks)
Automatically confirm whether a manuscript adheres to the publisher's template and requirements.

Sanction checks
Enable publishers to easily identify papers that are (co-)authored or funded by people or organizations in sanctioned countries.

Detect salami publishing and tortured phrasing
Allow publisher representatives to identify these pervasive tactics of fraud and plagiarism, usually an indication of paper mill generated content.

Submission completeness checks
Empower organizers with automatic identification of incomplete submissions from authors of proceedings papers, such as missing author information (email, affiliation, etc.), missing ethics statements, missing keywords, and more.

Flag AI/ML generated papers
Automatically scan, identify, and flag papers containing Artificial Intelligence and Machine Learning generated text.

The Future Is Promising

The long-term impact of AI/ML on the scholarly publishing industry is still to be determined. One thing is certain, it will be a community effort to ensure this powerful technology is used to benefit science, our communities, and the world.

Morressier is dedicated to being a leader and strategic partner in the responsible and ethical use of AI/ML. Our platform leverages smart tools for a high-quality user experience that reduces effort and compresses time to publication. We want to build confidence in research integrity at every stage of the lifecycle. The best way to combat AI/ML enhanced misconduct is with a publishing workflow that itself is enhanced by AI/ML.