Eliza

AI-supported peer review

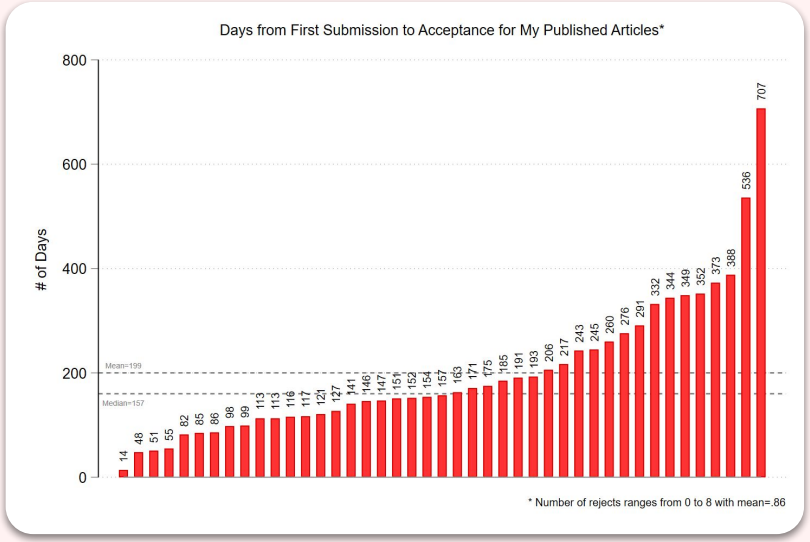
World Brain Scholar

Peer review has problems

- More papers, fewer qualified reviewers
- Reluctance of reviewer to accept
- Review time-consuming
- Long review times

- Inconsistent review quality

- Publishers hardly offer support for reviewers and editors



https://jnix.netlify.app/post/post16-peer-review-process/

Eliza

- World's first and only professional tool concentrating on the evaluation of a scientific manuscript.
- Leverages state of the art AI-technology.
- Eliza supports both editors and reviewer.

Where in the publisher workflow?

- Eliza assumes that:
  - Paper has undergone main 'technical' checks (incl. plagiarism, subject, English language, image quality, captions, etc.) by the editorial office and is considered suitable for peer review.
  - The peer reviewers and editor have been identified.
  - Output of Eliza: peer-review reports, editorial decision incl. full decision letter.

Our goals

Eliza is an AI-powered tool to support the peer review process.

Better peer review, faster decisions.

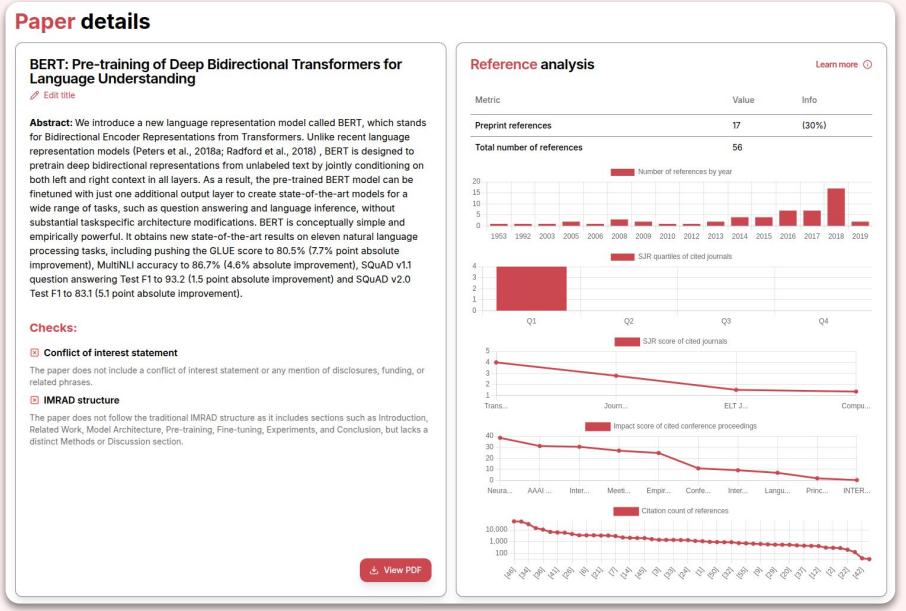
- Improve peer review quality
- Expand and engage the reviewer pool
- Give authors better feedback
- Accelerate and simplify decision making
- Safeguard research integrity

Eliza: three components

1. Manuscript analysis
2. Peer Reviewer Support
3. Editor Support

Manuscript analysis

- Basic content checks
- Reference statistics and additional data
- Related work suggestions
- Reference similarity checks



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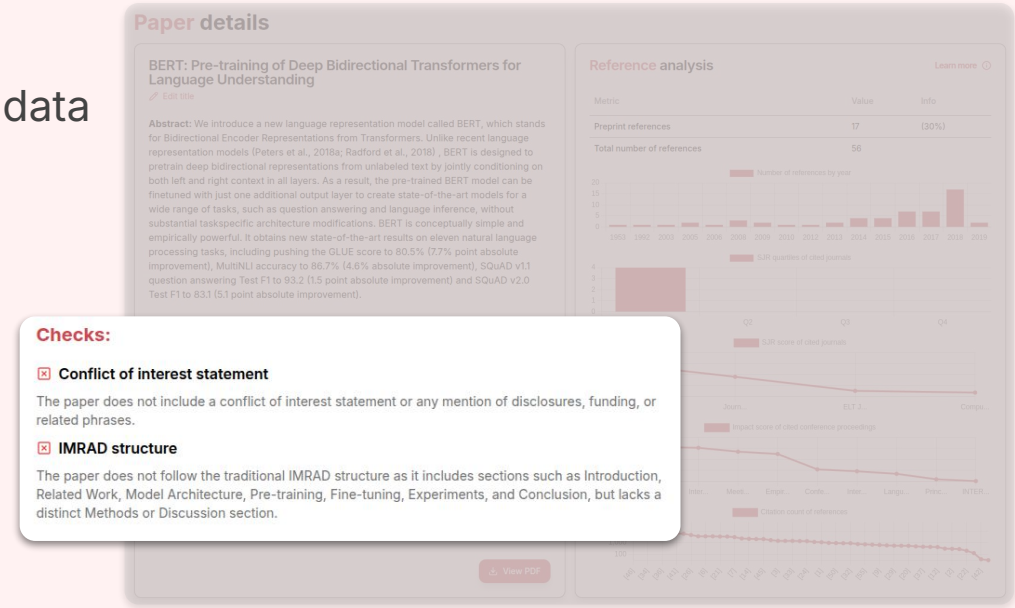

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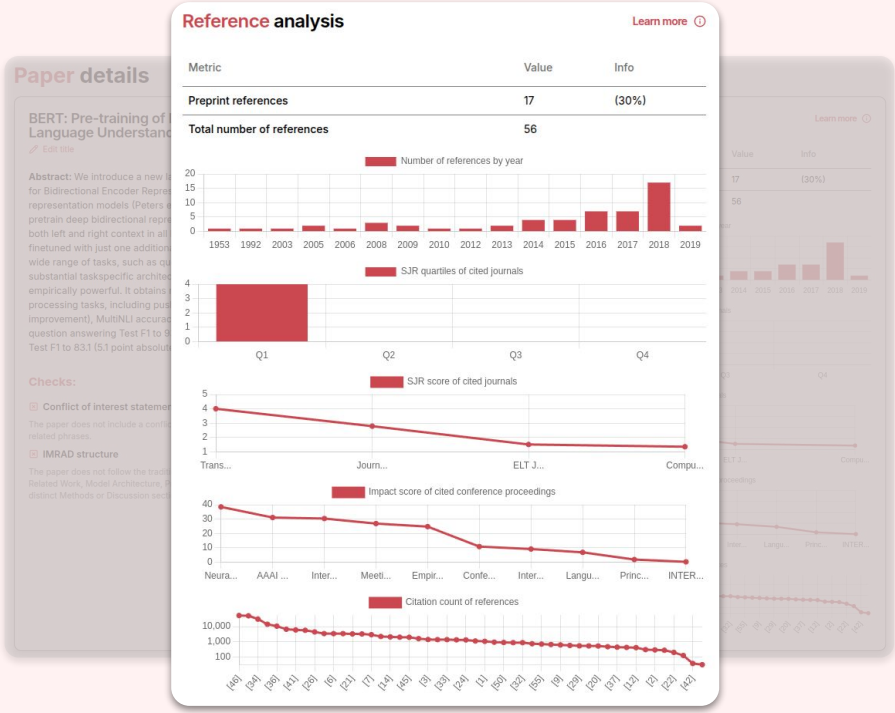

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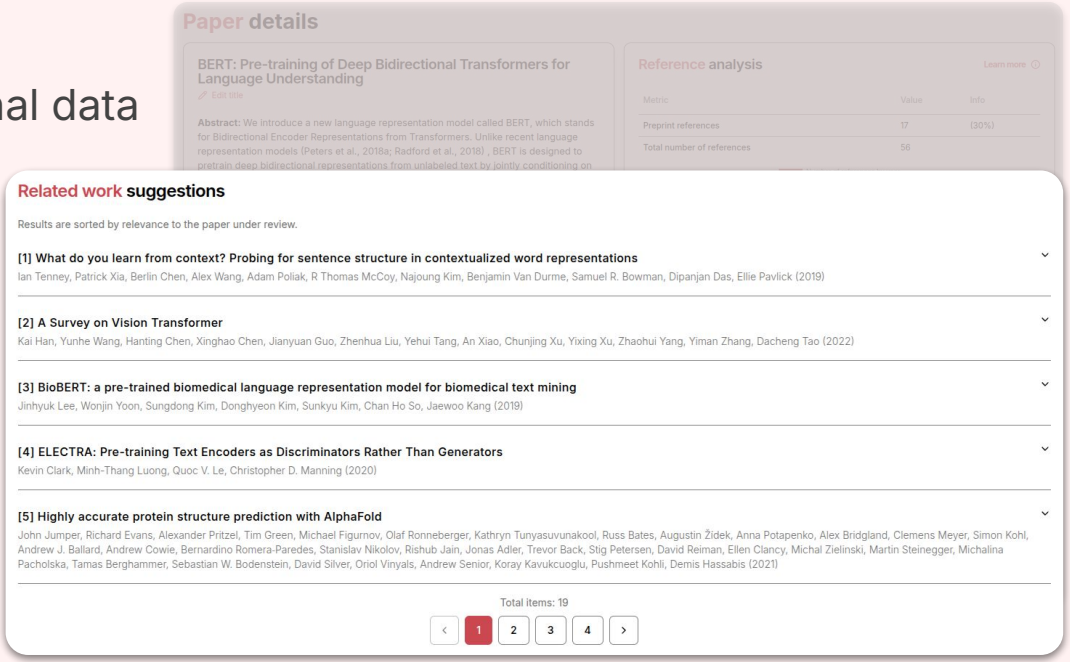

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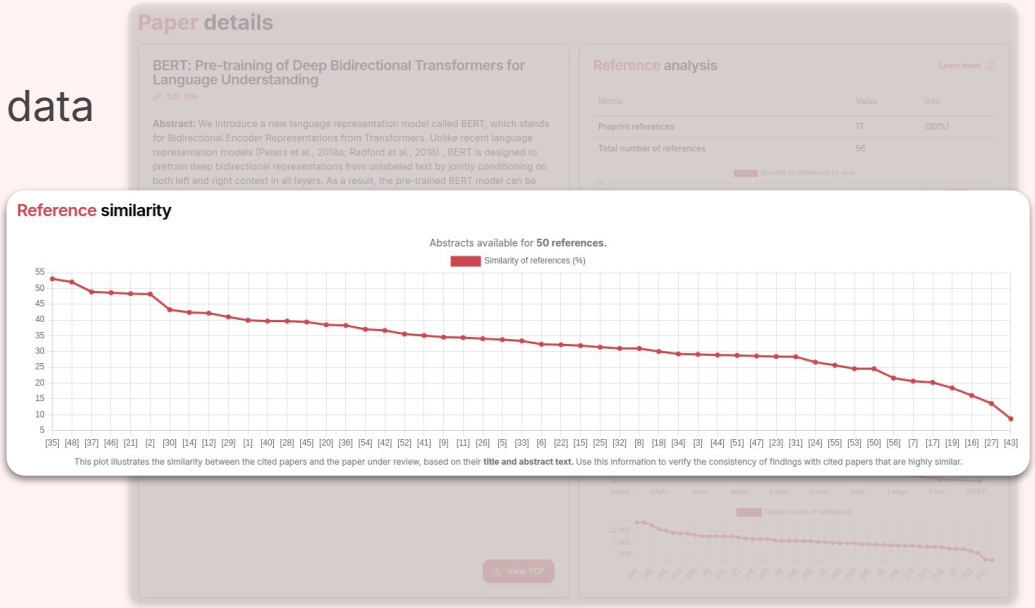
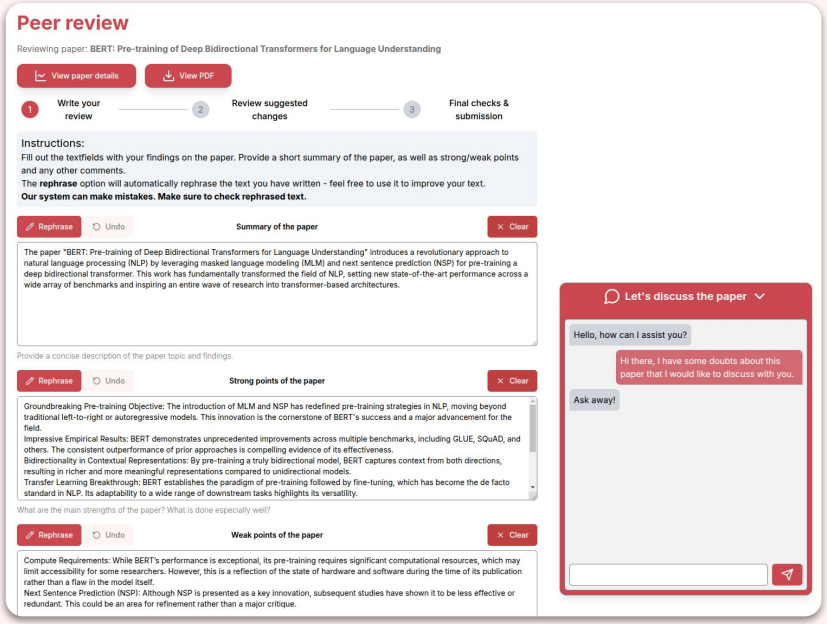


Peer reviewer support

- **Reviewer in charge**
- **Structured reviewing form**
- Language support through rephrase functionality
- Paper-aware chat assistant
- Automatic improvement suggestions



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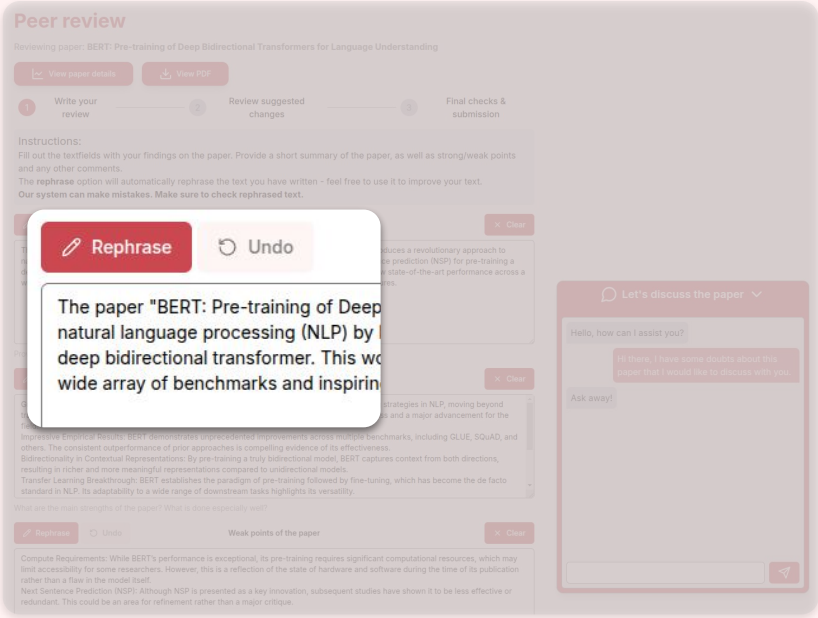

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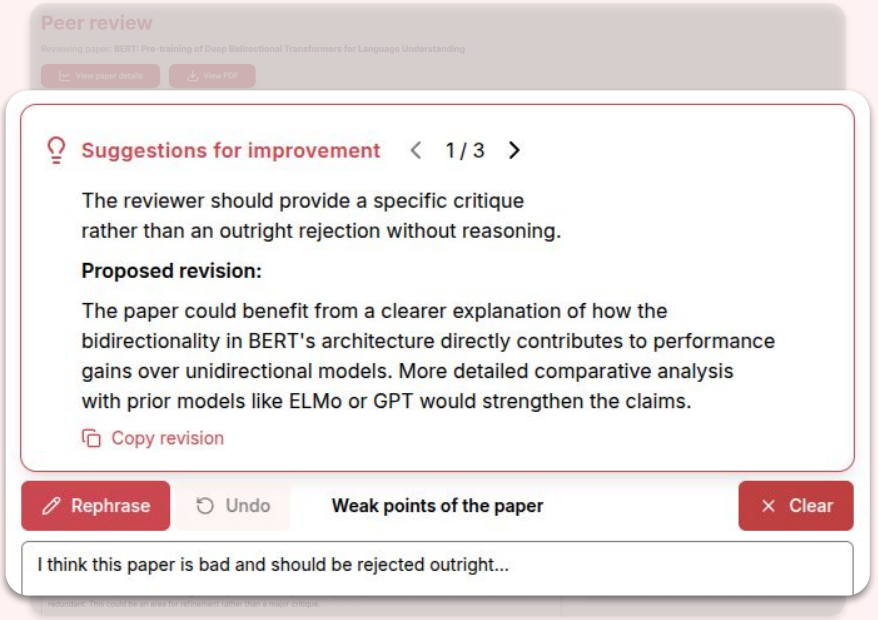
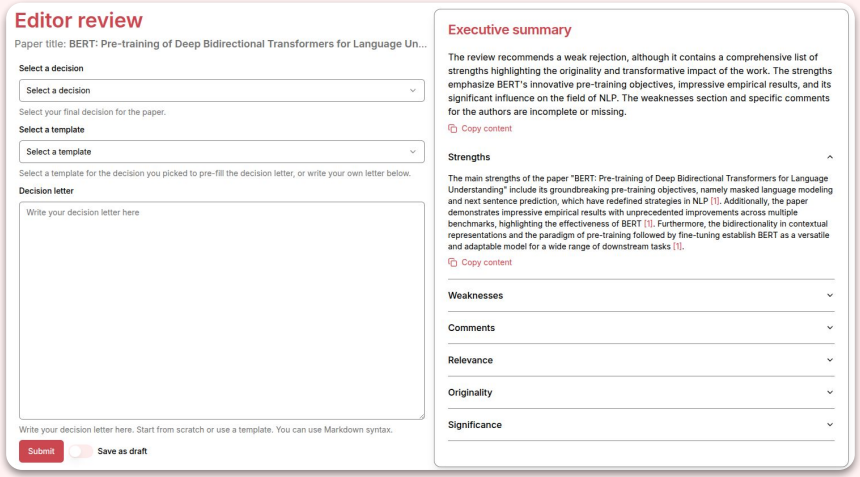


3. Editor support

- Executive summary
  - Supported by references to reviews
- Personalized and informative decision letters
- Search the paper to verify reviewer comments



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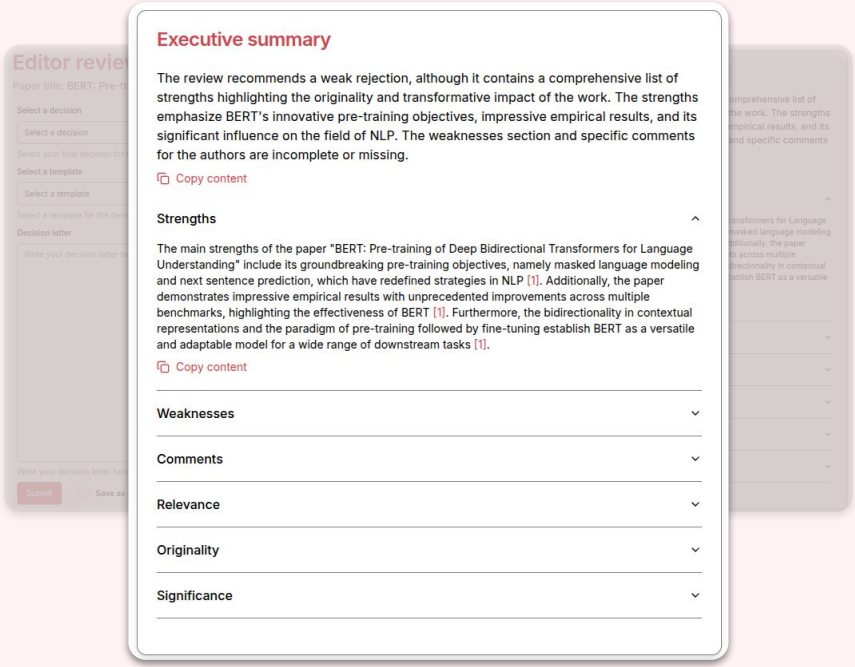

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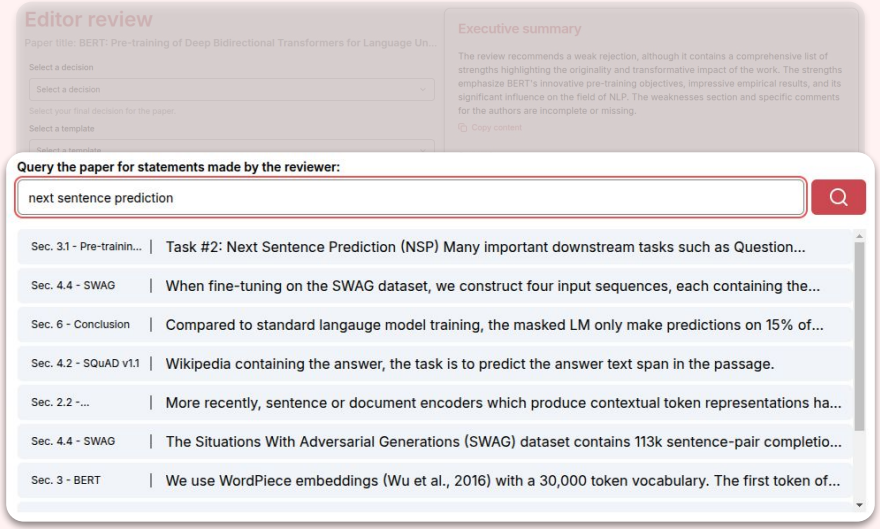

Eliza: Main features

- **Interactive**: guidance through process
- **Engages peer reviewer**: Eliza requires reviewer input before giving any feedback.
- **Structured reviewing**: peer reviewer is prompted to write a structured PR dealing with specific aspects of the paper.
- **User-driven and controlled**: Eliza provides suggestions to further substantiate and complete the reviewer's and editor's reports.
- **Efficient decision-making** for editor through executive summaries of reviewer's comments on major aspects of paper.
- **Lowers barriers** for peer-reviewers and increases quality of reports and language from novice and non-native English-speaking reviewers.

Eliza: Technology, Privacy and IP

Technology

- Leverages various AI-technologies: LLMs, RAG, semantic profiling, ….
- Datasets: trained on multiple datasets with thousands of papers and their peer-reviews.
- Works as stand-alone or integrated into publisher's workbench via our APIs.
- Eliza not off-the-shelf product: can be customized according to publisher's peer-review policy.

Privacy and IP

- Paper copyright and reviewer/editor privacy are protected. Papers will only be used within Eliza-environment.
- All paper and user-data protected according to GDPR & EU AI-regulations.

Eliza: Current status

- Ongoing pilots and tests with publishers
- Ongoing feedback from researchers and societies
- Looking for new collaborations

- Free version: available for authors and reviewers through our website!

Eliza: Outlook

- New features under development
  - Checking article subject with journal's scope
  - If out of scope: journal suggestion (within or outside publisher's portfolio)
  - Manuscript revision analysis
  - References use: are they indeed used in the paper
  - Citation checking:
    - does citation indeed occur in cited paper
    - is citation in line with author claim
- Collecting review and reviewer data for editorial office/publisher
- Free version: available for authors and reviewers through our website

Thank you!

Contact:

Website: **www.world-brain-scholar.eu**

Email: **contact@world-brain.eu**