

ASReview

❑ Overhyped AI with Limited Real-World Impact

ASReview markets itself as an AI-powered active learning tool to streamline systematic review screening. However, the reality reveals significant shortcomings that undermine its practical utility.

- The machine learning models are **fragile and domain-dependent**, often requiring extensive tuning and user expertise to avoid poor performance.
- It frequently suffers from **data sparsity and cold-start problems**, where insufficient initial training data leads to unreliable prioritization.
- The promise of drastically reducing screening workload is often **overstated**, with real-world time savings being marginal for many topics.

❑ Usability and Integration Challenges

- ASReview's user interface is **minimalistic but non-intuitive**, demanding steep learning curves for new users.
- It operates largely as a standalone tool, lacking seamless integration with popular reference managers, systematic review platforms, or collaboration tools.
- Export and import functionalities are limited, complicating workflow continuity and reproducibility.

⚠ Transparency and Trust Deficits

- The AI decision-making process is largely a **black box**, offering little explainability on why studies are prioritized or excluded.
- There are minimal options for user intervention or manual override of AI decisions without disrupting the learning process.
- This opacity raises concerns about bias, errors, and accountability in critical review stages.

❑ Limited Scope and Adaptability

- ASReview focuses mainly on title and abstract screening, neglecting later review stages such as data extraction or risk of bias assessment.
- It is less effective for reviews with highly heterogeneous studies, non-English literature, or niche topics with sparse data.
- The tool does not yet support multi-user collaboration natively, restricting its use in team settings.

❑ Maintenance and Community Support

- Being a research-driven open-source project, ASReview suffers from **infrequent updates** and variable documentation quality.
- User support channels are limited, placing the burden on individual teams to troubleshoot and

customize.

□ Final Verdict

ASReview offers an intriguing glimpse into AI-assisted review but remains an **immature, niche tool with significant limitations in usability, transparency, and real-world effectiveness**. Its deployment should be cautious and supplementary, not foundational.

Recommendation: Use ASReview only as an experimental adjunct to established review processes, not as a replacement for rigorous human screening and judgment.

Better Alternatives to ASReview

□ Covidence

- □ Intuitive, widely adopted systematic review platform
- □ AI-assisted screening suggestions integrated into workflows
- □ Strong collaboration, version control, and audit trails
- □ Integrates well with reference managers and export tools
- □ **Why better than ASReview:**

Robust workflow support combined with user-friendly AI assistance

□ EPPI-Reviewer

- □ Advanced machine learning and text mining for screening prioritization
- □ Supports multiple review stages including bias assessment and data extraction
- □ Comprehensive workflow integration and audit features
- □ **Why better than ASReview:**

More mature AI features integrated within full systematic review platform

□ RobotReviewer

- □ Automated risk of bias assessment complementing screening
- □ Provides explanations for bias judgments improving transparency
- □ Can be integrated into review workflows for enhanced efficiency
- □ **Why better than ASReview:**

Extends automation beyond screening into critical appraisal stages

□ Rayyan

- □ User-friendly screening tool with AI suggestions and conflict resolution

- ☐ Supports team collaboration and manual screening alongside AI
- ☐ Free, web-based, accessible interface
- ☐ **Why better than ASReview:**

Balanced AI assistance with ease of use and accessibility

☐ **Summary Table**

Tool	Strengths	Why Better Than ASReview
Covidence	Integrated AI screening, collaboration	Robust workflow, team-friendly, widely used
EPPI-Reviewer	Advanced ML text mining, full workflow	Mature AI and review stage integration
RobotReviewer	Automated bias assessment with transparency	Extends automation to critical appraisal
Rayyan	Easy to use AI-assisted screening	Accessible, collaborative, balanced AI

☐ **Final Recommendation**

- Use **Covidence** for streamlined, team-based AI-assisted screening and review management.
- Use **EPPI-Reviewer** if you require mature AI features integrated into comprehensive review workflows.
- Use **RobotReviewer** to augment screening with automated risk of bias assessment.
- Use **Rayyan** for accessible, collaborative screening with helpful AI suggestions.
- Use **ASReview** primarily for experimental or niche AI-active learning projects.

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