AI Tools to Enhance Research Efficiency in Time and Reduce Cost - Herald ID

Aswad Syam

Oleh: Baharuddin | Author | Lecturer
Head of Medical Biochemistry University of Surabaya, Surabaya, Indonesia

[HERALD.ID](#) – Whether you're pursuing a Master, PhD or conducting post-doctoral research, these AI tools are designed to support various stages of your research workflow:

For Academic Writing

- Turnitin Assistant: A tool designed to display the originality level of your work in progress, helping ensure the uniqueness and integrity of your academic writing.
- Web-based AJE Digital Editing: An AI-powered digital editing tool trained with over 300,000 manuscripts across 400+ fields of study.
- Grammarly and Quillbot: Enhance your writing with advanced grammar correction, style, and tone adjustments tailored for academic contexts.
- Lex: This text editor streamlines document storage and formatting, simplifying the inclusion of references, headers, and lists.
- Scrivener: Ideal for extensive writing projects, this tool allows flexible text arrangement and comprehensive note organization to combat writer's block.
- Curie on Springer Nature: Utilizes AI to provide contextual writing suggestions and relevant scientific content recommendations.

For Research Planning

- Trello: A highly versatile project management tool that allows you to organize tasks, track project progress, and collaborate with team members using boards, lists, and cards. It's ideal for maintaining oversight of different research activities and ensuring all parts of a project are moving forward as planned.
- Asana: This tool provides a comprehensive solution for project and task management. You can create detailed project plans, assign tasks to team members, set deadlines, and monitor progress through a user-friendly dashboard. Asana is particularly useful for managing large-scale research projects involving multiple stakeholders.
- Microsoft Project: Known for its powerful project planning features, this tool helps researchers design a detailed project schedule, manage resources, and track progress. It's especially effective for complex research projects that require precise planning and resource allocation.
- Obsidian: A powerful knowledge management tool that helps in creating a linked, personal wiki for your research notes and ideas.
- GanttPRO: A robust tool for planning timelines, assigning tasks, tracking progress, and meeting deadlines.

For Literature Discovery & Synthesis

- ScopusAI: A comprehensive tool designed for searching and synthesizing literature findings, enhancing the efficiency of literature reviews and research exploration.

- Dimensions AI: A database that aids in the search and summarization of references, facilitating efficient access to a broad spectrum of academic literature.
- Semantic Scholar: Access over 200 million research documents, uncover thematic links, and receive personalized search suggestions.
- Scholarcy: AI-driven summaries that pinpoint crucial elements such as participants, analysis, findings, and limitations.
- Paper Digest: Generates concise three-minute summaries of research articles, highlighting essential ideas and statements.
- SCITE.AI: Analyzes citation contexts to evaluate the impact and relevance of research findings.
- Perplexity: AI-enhanced literature review tool that synthesizes information and assists in discovering emerging trends.

For Data Analysis

- Google Colab: Provides a cloud-based Python programming environment that facilitates collaborative data analysis and machine learning.
- Excel Formula Bot: Translates textual instructions into precise spreadsheet formulas.
- Jamovi: An open-source statistical software designed for ease of use in academic research.
- R Programming: An open-source statistical software designed for ease of use in academic research.

Citation | Bibliography | Referencing

- Endnote from Clarivate Analytics: Utilizes the Pro version for enhanced access. Known for its robust performance in citation management and bibliography formatting, making it a valuable tool for academics.
- Zotero: An open-source platform that excels in dynamic citation and reference management. It is continually evolving, providing flexible and powerful tools for organizing research materials.
- Mendeley by Elsevier: A free product that integrates with Microsoft applications, offering efficient citation and bibliography creation along with document organization and collaboration features.

Purpose Any of AI Tools

These AI tools are not designed to construct or fabricate data but are aimed at assisting in the refinement and acceleration of corrections on existing drafts. Users should possess a thorough understanding of AI technologies before employing these tools, including knowledge of potential biases and how to mitigate associated risks. This awareness is essential for effectively leveraging AI in research while ensuring the integrity and accuracy of the scholarly work. (*)