Simplifying the Literature Review Journey — A comparative analysis of 6 Al summarization tools

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Post Url

https://www.enago.com/academy/best-ai-summarization-tools/



Imagine having to skim through and read mountains of research papers and books, only to realize that most of the literature wasn't what you were looking for! Sounds scary, doesn't it? Why not use summarization tools to save time and help you decide if a particular reference is worth referring to or not!

With the growing development in Artificial Intelligence (AI), <u>summarization tools</u> have emerged as an indispensable aid for researchers in retrieving information from the vast sea of data. By harnessing the power of natural language processing (NLP) and advanced algorithms, these cutting-edge tools distill lengthy texts into concise and comprehendible summaries. Although AI <u>summarization</u> tools are not merely technological novelties, researchers find themselves puzzled about choosing a right tool which helps them to ease their referencing journey.

What Are AI Summarization Tools





Al summarization tools are Al-powered technological aids that help in condensing complex information into a concise summary that covers all the major aspects and pertinent information from a reference. The generated summary can either be an entirely new text which conveys the key ideas of the text or extracts the main points of relevance from the text.

Here is an example of how an Al summarizer works.

ORIGINAL TEXT

Attention Scopus Users! Study Reveals 67 Hijacked Journals Prompting Concerns

A recent study focused on indexjacking, warns that Scopus, a widely used scientific paper database operated by Elsevier, contains 67 "hijacked" journals as of September 2023. The analysis identifies 33 journals indexing unauthorized content, 23 compromising the homepage link, and 11 doing both. These journals from legitimate publications were taken over by unscrupulous operators to profit from author fees of up to \$1000 per paper. The study indicates that hijackers employ various methods, such as renewing internet addresses before legitimate owners, or manipulating Scopus to list a fake URL that redirects to the hijackers' website. These journals, although a small fraction of the total indexed, raise concerns about the corruption of the scholarly record. Some hijacked journals may contain legitimate work, but on analysis revealed instances of plagiarism, fabrication, or publication without peer review. Notably, nine of the hijacked journals are in the medical field, posing potential health risks.

Elsevier Responds With a Thorough Investigation of the Identified Journals

Elsevier is investigating the identified journals, and as of September 2023, 13 journal homepage links have been removed from Scopus. Scopus emphasizes the importance of maintaining integrity and claims to have been proactively addressing suspicious titles using technology and input from researchers and experts. However, the study's author questions the effectiveness of Scopus' measures, citing instances of continued listing of hijacked journal papers despite previous alerts.

Counteract Hijacked Journals

The study's author suggests that changes are needed within the scholarly publishing ecosystem to counteract hijacked journals, emphasizing the role of coordinated action by all stakeholders. Authors are advised to consult a list of hijacked journals and stay vigilant to prevent further infiltration into commercial bibliographic databases.

SUMMARIZED TEXT

Elsevier Responds With A Thorough Investigation Of The Identified Journals

Elsevier is currently investigating certain journals and has already removed 13 journal homepage links from Scopus as of September 2023. Scopus, a database, has been actively working to maintain integrity and has been using technology and input from researchers and experts to address suspicious titles. However, the author of a study raises concerns about the effectiveness of Scopus' measures, as there have been cases of hijacked journal papers still being listed despite previous alerts.

Counteract Hijacked Journals

Changes are recommended in the scholarly publishing ecosystem to address hijacked journals, according to the study's author.

This involves coordinated action from all stakeholders. Authors are advised to remain vigitant and consult a list of hijacked journals to prevent further infiltration into commercial bibliographic databases.

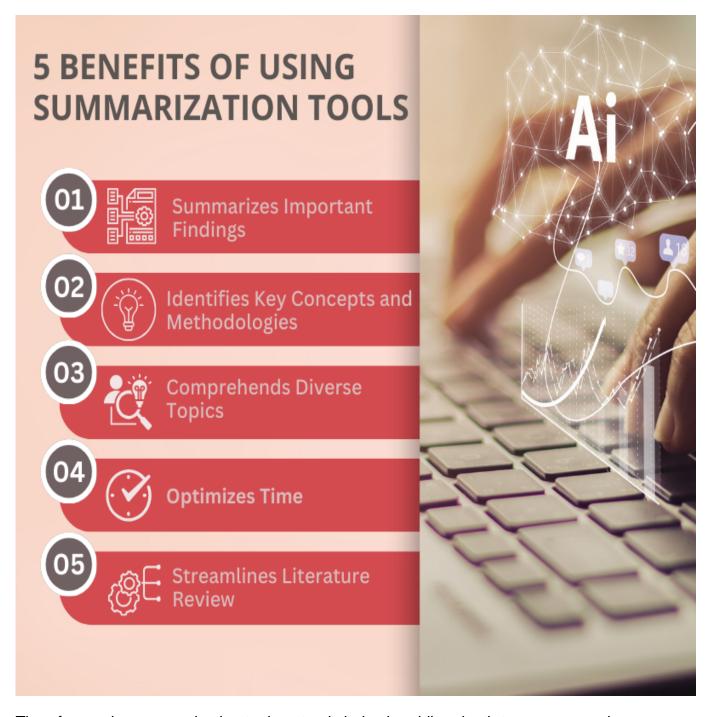


By collecting information from various sources, researchers can gain a holistic understanding of a topic, identify trends, and gather insights that may not be immediately apparent in individual documents.

Importance of Al Summarization Tools

Al summarization tools are versatile toolkits in managing the vast pool of information. Furthermore, they facilitate quick comprehension of diverse topics, thereby expediting the research process. Some benefits of using summarization tools in research are as follows:





Therefore, using summarization tools not only helps in adding depth to your research but also enables drawing connections to derive meaningful conclusions.

However, with so many tools around, researchers find themselves stuck choosing the right tool that helps them to generate summaries, with minimal loss of useful data.

Comparative Analysis of 6 Al Tools for Summary Generation

With the growing amount of information, the quest for efficient and accurate summary generation tools has increased. The availability of diverse Al-driven solutions has





sparked a need for researchers to make an informed choice.

We did a comprehensive evaluation of 6 majorly used AI tools for summary generation by researchers. Based on the parameters such as affordability, user-friendliness, inclusion of diverse data sources (text, PDF, word documents, etc.), additional features, and the quality and accuracy of the summarized content, we analyzed these tools designed for summary generation.

Here is a comparative analysis of these tools to discern their effectiveness in summarizing information and facilitating a nuanced understanding of their respective strengths and limitations.



AI SUMMARIZATION TOOLS

A comparative analysis

| | Enago Read | Sci- Summary | Scholarcy | Resoomer | ChatGPT |
|------------------------------|---------------|-----------------|-----------|-------------------|---------|
| ESSENTIAL FEATURES | | | | | |
| User Friendly | • | 0 | Ø | Ø | • |
| Accessibility | Ø | 0 | • | Ø | • |
| High Summary Accuracy | 0 | 0 | ⊗ | 8 | 8 |
| Offers Section-wise Summary | • | 8 | 8 | 8 | ⊗ |
| RELATED FEATURES | | | | | |
| Accepts Different File Types | © | 0 | • | • | 8 |
| Allows Asking Questions | • | 0 | 8 | © | 8 |
| Generates Key Insights | 0 | 8 | 8 | 0 | 8 |
| Provides Related Literature | 0 | Ø | 8 | 8 | 8 |
| ◎ EnagoAcademy | enagoacademy | | | enago.com/academy | |

1. Enago Read





<u>Enago Read</u> is an AI assistant which is specific for handling technical and specialized scientific content summarization and helps simplifying content from the literature. Furthermore, with the help of Copilot, it helps users to ask questions and simplify the process of literature analysis.

Recommended Users:

Researchers, Students, Marketing Analysts, Industry Stakeholders, Policy-makers

Price:

USD 0 to USD 4

Pros:

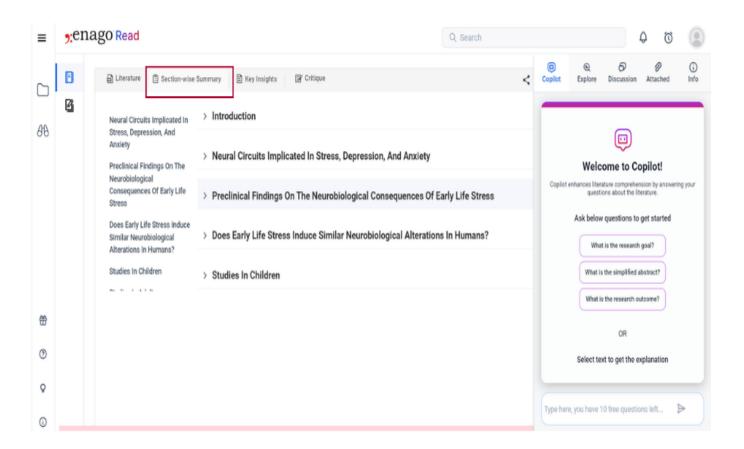
- Enables free use
- User-friendly
- Generates accurate and section-wise summary
- Provides supportive arguments and possible research opportunities
- Recommends related literature
- Facilitates asking questions about the literature
- Extracts tables and figures

Cons:

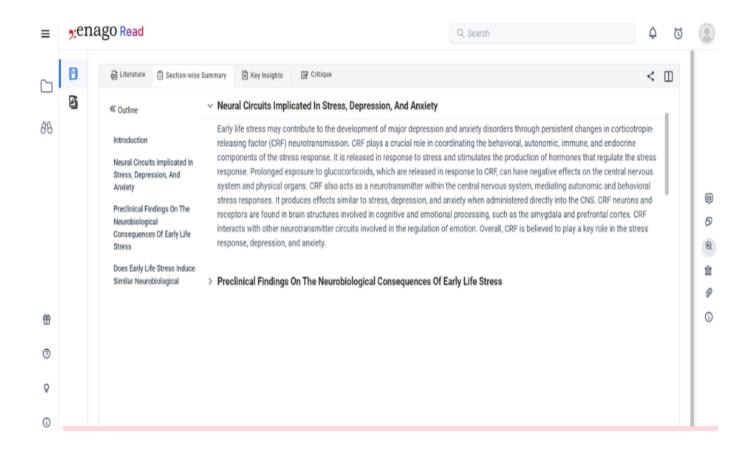
- Long processing time
- Accepts only PDF files/ URL











2. SciSummary

<u>SciSummary</u> is an AI summarizer that help in summarizing single or multiple research papers. It combines and compares the summaries of the content from research papers, article links, etc.

Recommended Users:

Students, Researchers, Marketing Analysts, Industry Stakeholders, Policy-makers

Price:

USD 4.99 to USD 299.9

Pros:

- Accepts article links
- Provides different types of summarization
- Simplifies the future area of research
- Allows adjusting the summary length
- Provides summary in different languages

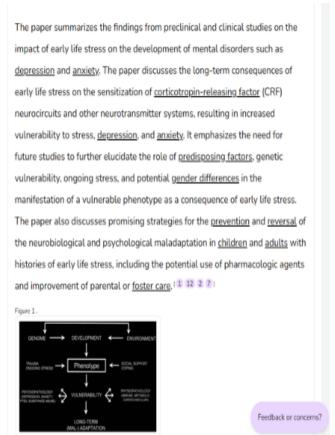




Cons:

The free version does not allow more than 10k words per month





3. Scholarcy

<u>Scholarcy</u> is an online summarization tool that extracts the key highlights, figures, and data from the literature. However, it does not summarize the content from article links and can accept only text files or article DOI.

Recommended Users:

Students, Researchers, Marketing Analysts, Industry Stakeholders, Policy-makers

Price:

USD 0 to USD 410

Pros:

• Provides comparative analysis of the data

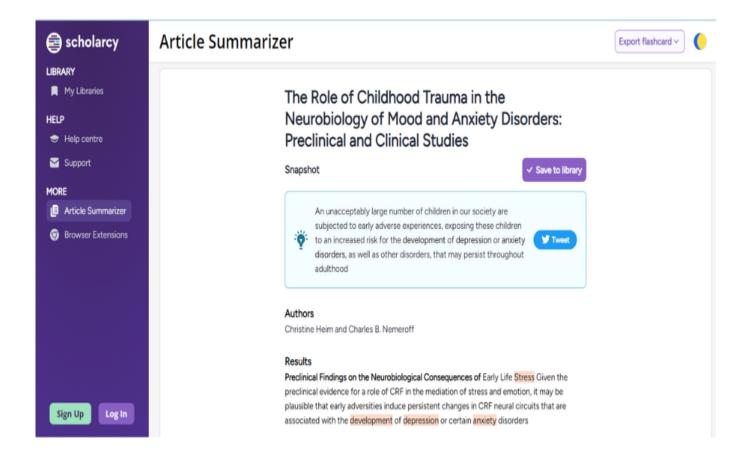




- Offers key highlights, abstract and synopsis of the input literature
- Provides a 3-4 lines snapshot of the entire content
- The generated summary can be downloaded

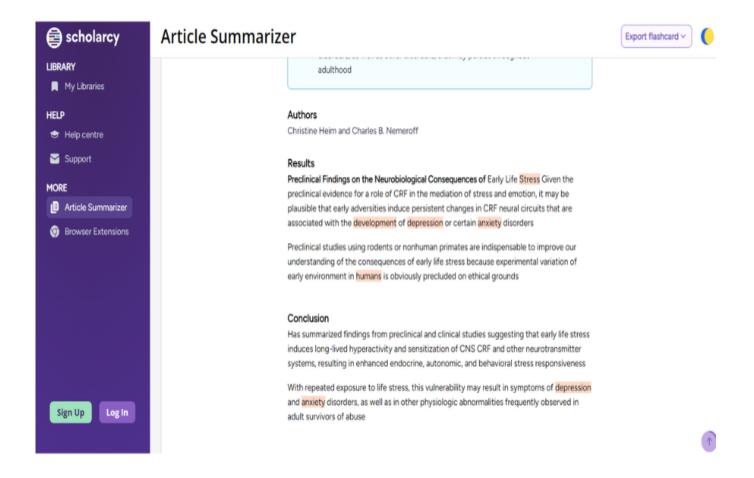
Cons:

- Does not accept article links
- Users with a free account can create only 3 summary flashcards per day









4. Resoomer

Resoomer generates summaries and can be used to paraphrase content. It accepts multiple files and provides a summary of the text.

Recommended Users:

Students, Researchers and Marketing Analysts

Price:

Euro 0 to Euro 9.90

Pros:

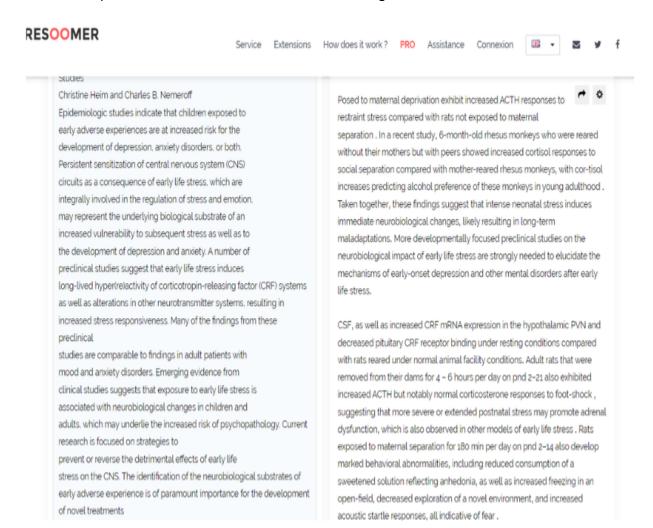
- Provides different modes to generate summary
- Translates the summary to other languages
- Accepts links, multiple file types and YouTube videos
- Allows downloading the summarized text

Cons





- Provides too long summary with unwanted details
- Does not provide the information from tables or figures







With respect to other neurotransmitter systems, increased CRF receptor binding has been measured in the nuclei raphé. Indeed, adult rats separated from their dams for 180 min per day on pnd 2–14 exhibit decreases in serotonin cell firing in the raphé nuclei in response to increasing doses of the selective 5-HT reuptake inhibitor citalopram, suggesting persistent alterations in 5-HT trans-porter, 5-HT1A autoreceptors, or both after maternal separation. In addition, it has previously been shown that maternal separation is associated with a decrease in hippocampal GR, reflecting impaired feedback inhibition of the HPA axis. A recent study has evaluated GABAA and central benzodiazepine receptor levels in the brain of maternally separated rats.

Central benzodiazepine receptors are a component of the GABAA receptor and enhance the affinity of the GABAA receptor for GABA resulting in increased inhibition of fear and anxiety. Opposite to the long-term consequences of prolonged maternal separation, brief handling involving removal of rat pups from their dams for 15 min per day on pnd 2-14 results in a phenotype, which is less sensitive to stress, less fearful and thus better adapted compared with rats who were left undisturbed during the postnatal period . Pivotal to the understanding of the determinants involved in the mediation of the neurobiological consequences of early life stress in rodents are a series of findings showing that separation of rat pups from their dams results in alterations in maternal behavior. Compared with normal animal facility conditions, removal of pups from dams for 15 min/day has been shown to induce increased maternal care-giving behavior, as evidenced by increased licking, grooming, and arched-back nursing.

How does it work? PRO Assistance Connexion 👪 ▼ 💆 💆

Several studies have assessed the neurobiological and behavioral adaptations to naturally occurring variations in maternal behavior, without actually removing the pups from their dams . Remarkably, these studies showed that increased licking, grooming, and arched-back nursing behavior is highly correlated with decreased pituitary-adrenal responses to stress, increased GR binding and enhanced synaptogenesis in the hippocampus, decreased CRF mRNA expression in the hypothalamus along with decreased CRF receptor and increased presynaptic _2 receptor site binding, as well as increased CBZ receptors in the amygdala and LC. The causal role of variations in maternal caregiving behavior in shaping a phenotype more or less vulnerable to stress has impressively been proven in a series of cross-fostering studies demonstrating that maternal behavior determines stress reactivity in the offspring and, moreover, that individual differences in maternal behavior are passed on the next generation through nongenomic transmission. Similar to findings in rodents, adult nonhuman primates that have been maternally deprived during infancy exhibit increased pituitary-adrenal and behavioral responses to acute stress, as well as signs of behavioral despair.

Some studies on the long-term consequences of early life stress in nonhuman primates have also focused on variations in maternal behavior during infancy.

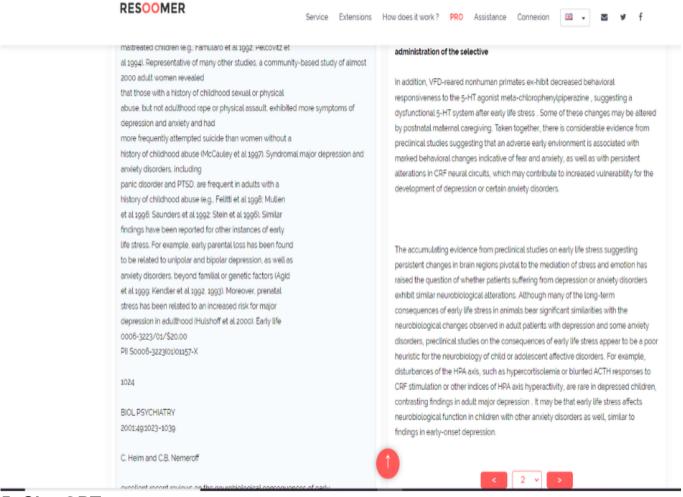
VFD-reared primates further exhibit exaggerated behavioral responses to the administration of the selective



addition, VFD-reared nonhuman primates ex-hibit decreased behavioral







5. ChatGPT

<u>ChatGPT</u> is a free generative <u>Al tool</u> that can perform wide range of activities, including literature summarization. However, it is not reliable as compared to other tools as it requires correct prompts to generate a proper response and the summarized data may include irrelevant details and miss on the important information.

Recommended Users:

Students and Marketing Analysts

Price:

Free

Pros:

- Free
- Easy to use
- Allows regenerating the summary multiple times





ChatGPT 3.5 v

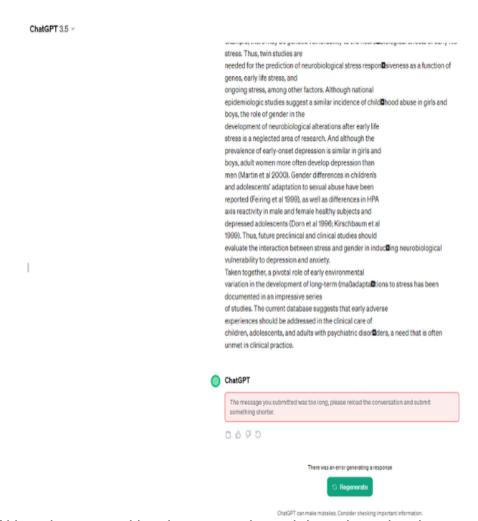
Cons:

- · Misses relevant points
- · Does not accept links and files
- Requires proper prompts for better results
- Cannot summarize long literature

Summarize the below literature: The Role of Childhood Trauma in the Neurobiology of Mood and Anxiety Disorders: Preclinical and Clinical Christine Heim and Charles B. Nemeroff Epidemiologic studies indicate that children exposed to early adverse experiences are at increased risk for the development of depression, anxiety disorders, or both. Persistent sensitization of central nervous system (CNS) circuits as a consequence of early life stress, which are integrally involved in the regulation of stress and emotion, may represent the underlying biological substrate of an increased vulnerability to subsequent stress as well as to the development of depression and anxiety. A number of preclinical studies suggest that early life stress induces long-lived hyper(re)activity of corticotropin-releasing facetor (CRF) systems as well as alterations in other neuroatransmitter systems, resulting in increased stress respon@siveness. Many of the findings from these preclinical studies are comparable to findings in adult patients with mood and anxiety disorders. Emerging evidence from clinical studies suggests that exposure to early life stress is associated with neurobiological changes in children and adults, which may underlie the increased risk of psychology. Current research is focused on strategies to prevent or reverse the detrimental effects of early life stress on the CNS. The identification of the neurobiologaical substrates of early adverse experience is of para mount importance for the development of novel for children, adolescents, and adults. Biol Psychiatry 2001;49:1023-1039 © 2001 Society of Biological Key Words: Stress, development, animal, h ↓ n, depres∎sion, anxiety Introduction There was an error generating a response







Although every tool has its own merits and demerits, using these tools in tandem can improve your experience. For example, a tool like Enago Read, which is highly trained for handling scientific content, can be used with tools like Scholarcy and Resoomer, which accepts data from diverse sources to improve your experience.

Al-summarization tools can revolutionize the research landscape by offering researchers unparalleled efficiency, speed, and versatility in information processing These tools can accelerate the pace of literature review by helping the researchers to wrap up the tedious task of reviewing lengthy literature. Although these tools offer several advantages that help researchers in streamlining their research process, one must learn to use these tools properly. Moreover, researchers should limit the use of these tools to identifying appropriate references and must read the short-listed references properly to avoid missing out on the important details.

<u>Choosing a right literature review tool</u> not only reduces the burden of tedious literature review but also catalyzes the rapid generation of innovative ideas across diverse domains. Researchers equipped with these powerful tools are better poised to unlock the full potential of abundant data that defines the digital age.

What are you waiting for? Choose your summarization tool wisely and be the 'Super-researcher' who effortlessly selects 'the one' from dozens of references in mere hours! The time is now — choose wisely and embark on a journey of accelerated knowledge





acquisition!

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