



AI TOOLS FOR ACADEMIC WRITING: A NEW ERA OF RESEARCH EXCELLENCE

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Abstract:

AI tools have become an important part of our professional lives, whether on the business level or the academic level. They play a crucial role for students and teachers. This has created the need to explore students' perceptions of such tools, as there is a need to know how and why students use these tools. Artificial Intelligence (AI) tools have transformed academic writing and literacy development in higher education. Students and scholars can now receive instant feedback on grammar, coherence, style, and argumentation using AI-powered writing assistants like Grammarly and ChatGPT, as well as Hypernote, Paperpal, and Inkscape. These AI tools help in academic writing and academic research, and we will get quick feedback. Tools give suggestions to write without mistakes. Moreover, these writing assistants can quickly produce completed essays and papers, leaving little else for the student to do aside from reading and perhaps editing the content. These AI tools help in academic writing and academic research, and we will get quick feedback. Tools give suggestions to write without mistakes. AI tools enrich academic writing, boost clarity and creativity, and uphold scholarly standards. The way of academic approaches to writing and knowledge creation is being transformed by the integration of AI for academic research and learners. By boosting accuracy, encouraging creativity, and streamlining the writing process, these tools allow academics to concentrate more on their main ideas and contributions. AI is currently being welcomed by academic institutions, ushering in a new era of research excellence that includes increased productivity and better outcomes. The collected data is analysed using qualitative methods. Finally, recommendations for future research were presented.

Key Words: AI, Importance, Tools, AI for education, academic research, Era.

Introduction:

Artificial Intelligence AI is the ability of machines to perform tasks that usually need human intelligence. It is a new and rapidly growing technology. Humans are using AI tools and applications for their needs. Computer programs that can learn, solve problems, and make decisions are made to do smart tasks

that usually need human thinking. Some AI programs can talk, play games, or even write stories. AI technology is in education, health care, business, transport, agriculture, research, and even in our daily lives. With the help of AI, we can generate ideas, solve problems, and create issues. Now, AI, using online platforms like Google, YouTube, and online shopping apps, also helps in driverless cars. In the future, AI will become even more important in our world. Minimally, as the generation changes, humans are using technology to complete the work in less time, without wasting time in the given time, with the help of AI, mostly used in the education sector.

AI offers transformative opportunities for education, helping to address the majority of challenges, innovate teaching and learning, and add advanced programs towards SDG. However, rapid AI development brings risks such as widening inequality and outpacing policy and regulatory frameworks. In academic research, AI tools from Anthropic, startups, and major publishers assist with tasks such as summarising papers, providing writing suggestions, and augmenting peer review. Artificial intelligence tools mainly help in academic research and writing, providing various tools to check grammar mistakes and fluency, create graphs, and check plagiarism. Most of the researchers are using Grammarly, Paperpal, Perplexity, Jinni, Inkscape, and QuillBot. These tools give feedback faster. AI is a defining characteristic of the new era of research excellence, as it extends the scope, accuracy, and efficiency of academic research. Artificial intelligence (AI) facilitates global collaboration, automates routine tasks, and enables sophisticated data analysis, thereby allowing researchers to concentrate on

Complex problem-solving and innovation. This transformation results in a more dynamic and impactful research environment, with higher-quality outputs.

AI Introduction

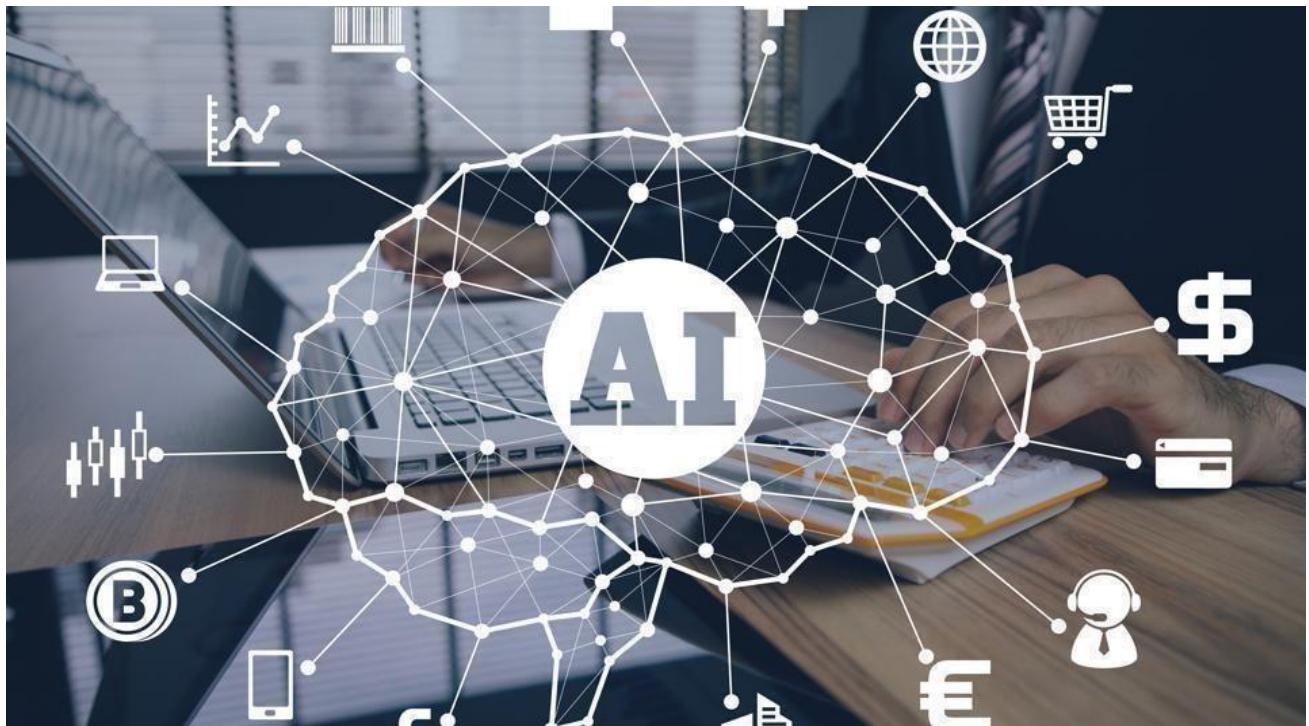
AI stands for artificial intelligence. AI has been a key topic in the present and future generations. Everyone should be aware of AI in the 21st century. An artificial intelligence approach that lets computers think and learn, just like humans. AI essentially means computers learning from data to make decisions.

AI = computer learning from data to make decisions.

❖ Now AI is used in many sectors. AI supports machine learning, health care, business, agriculture, and education.

❖ Computational learning identifies

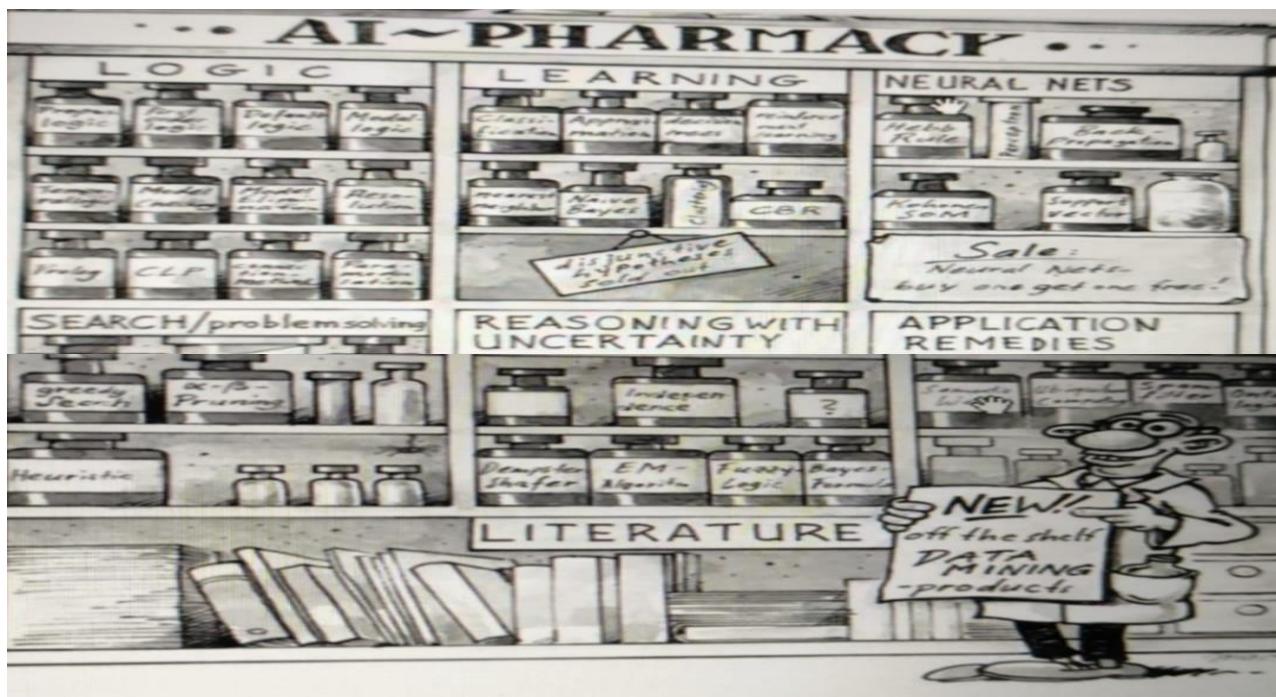
❖ Natural language processing, interpreting text, and generative AI are creating autonomous content.



“AI Won’t Replace Humans, But Humans Using AI Will”

Why AI is important:

- ❖ Artificial intelligence gives speed and accuracy.
- ❖ It provides transformative opportunities for education.
- ❖ Enhance writing: Recommendations on styles, tone, syntax, and structure, creating more interesting, competitive, interactive content.
- ❖ AI tools mainly support education to correct the sentence "support non-negative English" to improve language quality.



A small sample of the solution offered by AI

AI as a pharmacy: different AI methods are shown like medicines on shelves. Each shelf presents a major area of AI, and bottlenecks are techniques and algorithms to solve the problems.

Logic: This shelf shows AI techniques based on logic and rules.

Learning: Here represents machine learning techniques. **Search/problem solving:** This area presents techniques used to search for a solution.

Reasoning with uncertainty: This shelf deals with uncertain, incomplete information. Literature& data mining: At the bottom, books and scientists holding a sign show.

Using AI Tools for Education:

Teachers as well as pupils find AI tools to be quite helpful in the classroom. These intelligent instruments are not the same for every student, but learning is tailored to each pupil's requirements and ability level. This includes managing the student's plan, offering prompt feedback on homework or any other task, and helping each student discover how they study best. Artificial intelligence (AI) instruments help researchers and students become more effective, c u s t o m i s e d , and reachable. These publications are available in official, casual, and formal formats. Personalised growing and greater conceptual understanding are made practical by the use of AI tools, which also save teachers' and students' time and enable us to finish tasks on time.

We can improve our research and writing capabilities with the aid of AI tools.

Using AI Tools for Academic Research & Writing:

Academic writing and research are aided by the growing number of AI tools, each developed to fulfil specific requirements. AI tools such as Grammarly, ChatGPT, and qfullboat, etc., these tools generate citations and integrate with a word processor. AI tools in academic research save time, improve paper writing quality and organise research. Now, online platform AI tools available in freely, so we can use these tools at any time, 24/7 and support any time, depending on the user. These educational programs have been specially created by researchers to help students develop and enhance their writing skills at an important time.

Below given AI tools for learning, teaching and Research:



ChatGPT: ChatGPT-based AI, it helps for summarising notes, explain concept easy to understand, answering Questions, gives Quick answer and brainstorming ideas.

HyperNote: It is a great platform for note-taking, you can start using this tool during your literature survey process only.

Bit.ai is a unified platform enabling researchers worldwide to collaborate, manage diverse content, and create documents efficiently in real time.

Grammarly: Grammarly is a writing assistant tool to improve quality, clarity, tone, and correctness. With the help of this tool, it highlights the errors and also corrects them.

Inkscape: helps to create scientific figures, drawings, graphs and diagrams.

Semantic Scholar is an AI powered platform that answers complex queries, synthesises data from multiple sources and generates a clear report for researchers.

- ❖ This is the best tool for research and narrowing down your topic.
- ❖ This tool has 200+ million research papers.

Consences: Consences AI tool, it is ai powored search engine. Provides quick answers to your research doubts. Find a relevant paper based on your topic.

Google scholar +ChatGPT = “Consences”

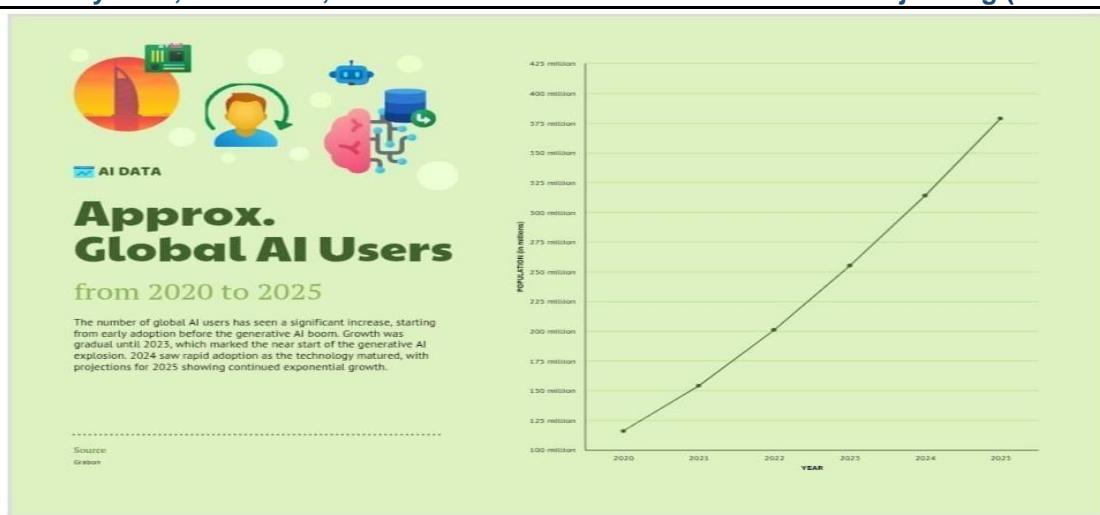
Perplexity: This tool is similar to ChatGPT, but it includes sources. It shows the latest version paper and references. With the help of this tool perplexcity tool, we can easily trace an idea across multiple sources.

Yomu AI: The yomu AI tool has a feedback feature, evedence support your clarity.

ANUVADiNi: (Human-like AI) translation tool, made. This tool translates information across indian 22 languages, and helps learners, students, and professionals. It converts text translation, document translation, voice translation inage/video translation, meating tranlation to u r regionallanguage



Research stage	Best free tools	Best commercial tools
Abstract framing	Elicit	paperpal
Literature Discovery	Sematic Scholar	Domensions
Citation mapping	Research Rabbit	Scite.ai
Evidence validation	Elicit	Scite.ai
Reference management	Zetero	Endnote
Writing & Language	ChatGpt	paperpal premium
plagiarism Check	Small free cheques	ithenticate
Founding Discovery	Manual Search	Dimensions



The above chart shows users using AI tools year-wise data.

New era of Research Excellence:

The integration of advanced technologies, such as artificial intelligence, is a defining characteristic of the new era of research excellence, as it extends the scope, accuracy, and efficiency of academic research. Artificial intelligence (AI) facilitates global collaboration, automates routine tasks, and enables sophisticated data analysis, thereby enabling researchers to concentrate on complex problem-solving and innovation. This transformation results in a more dynamic and impactful research environment, higher-quality outputs, and faster discoveries.

Conclusion:

This study looks at how AI is changing education for the better. The future of artificial intelligence in education is bright, with the potential to transform the way higher education institutions teach and learn. AI has the potential to transform education and many other industries and revolutionise how we interact with technology. AI tools help to organise better ideas and reference management. Overall, AI tools represent a new era of research excellence by improving productivity and quality. The collected data is analysed using qualitative methods. Finally, recommendations for future research were presented.

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