

### BEYOND THE HYPE: STUDENT USE AND MISUSE OF AI RESEARCH TOOLS: BASED ON INSIGHTS FROM AUB STUDENT SURVEYS AND PRACTICAL INSTRUCTIONAL EXPERIENCES

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## INTRODUCTION

•Context: Growing integration of AI tools (e.g., Elicit, Scite, Research Rabbit, ChatGBT) in academic research

•Focus: Investigating biases, limitations, and misinformation risks of AI tools affecting student research and learning.

•Purpose: Present survey findings and instructional experiences at AUB's Jafet Library from a student-centered perspective.

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## **SURVEY OVERVIEW: METHODOLOGY**

- •Survey Design: Online questionnaire developed using Lime Survey platform
- Participants: 86 graduate students across many different disciplines (mainly FAS) at
- the American University of Beirut
- •Instruments: Mix of Likert scale, multiple-choice, and open-text questions
- •Focus Areas: Generative AI tool familiarity, usage patterns, verification methods, and
- hallucination experiences
- •Analysis: Combined quantitative (descriptive statistics) and qualitative (thematic) analysis approaches

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## We asked our students: Are you familiar with....



Elicit



Scite





# Most Used AI tool, was ChatGPT for the purpose of research



Uncertain	No answer





## **Key Issues – Citation Inaccuracies**

•Statistics : An overwhelming majority (55 out of ~86) of students agree or strongly agree, with the largest group (40 students) selecting Strongly Agree.



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"ChatGPT produced citations that didn't exist or were incorrectly formatted."

> Mainly ChatGpt (even the paid version, 4.0). It creates titles of academic articles, can even generate hallucinated authors and DOIs (i.e. John Doe - I literally got this one time).

"I experienced this while using ChatGPT to gather sources for a project on renewable energy policies. The AI listed several academic articles with convincing titles and author names, but when I searched for them on Google Scholar and Scopus, I couldn't find any of them. This made me realize the importance of verifying every source independently, even if it looks credible."





## : Key Issues – Content Bias and Misinformation

•Statistics: A large majority of respondents (45 out of 86) agree or strongly agree that AI produces bias. This shows strong awareness or concern about bias in AI-generated content.



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•"Some AI-generated summaries felt overly simplistic or omitted key details." Using ChatGPT, I asked for a summary of a short story we had for class. The summary included information about completing made up characters and events, and the summary kept changing each time I asked for it





## **Strategies for Verifying Al Content**

### **Statistic:**

Only ~12% of students reported using trusted external sources such as Google Scholar, Scopus, or JSTOR to verify AI-generated citations and content.

### **Example & Discussion:**

While a small portion of students take the initiative to verify AI outputs, this behavior is **not yet common**. The low percentage highlights a gap in **critical engagement** with AI tools. There is a clear need for: •Raising awareness about AI hallucinations

- •Teaching simple verification strategies
- •Promoting academic integrity in AI-assisted research

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## Key Takeaways for Educators and Librarians

### •Recognize Risks:

Educators and librarians should be aware of the **biases and misinformation risks** that come with AI research tools, which can affect student learning and research quality.

### •Encourage Critical Thinking:

It is important to **promote critical engagement** with AI-generated content, helping students question and analyze the information rather than accepting it at face value.

### •Promote Verification:

Encourage students to adopt verification strategies such as cross-checking citations and content with trusted academic databases and peer-reviewed sources.

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Machine Learning (ML)

The term machine learning (abbreviated ML) refers to the capability of a machine to improve its own performance. It does so by by employing algorithms and statistical models that enable computer systems to find patterns in massive amounts of data, and then uses a model that recognizes those patterns to make predictions or descriptions on new data.

Natural Language Processing (NLP)

A form of artificial intelligence (AI) that allows computers to understand human language, whether it be written or spoken.

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Thank you for your attention! I'd love to hear your questions or thoughts about AI tools in academic research.





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## **THANK YOU**

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