

DRF AI & LLMs Presentation: Utilization in the Workplace & Classroom



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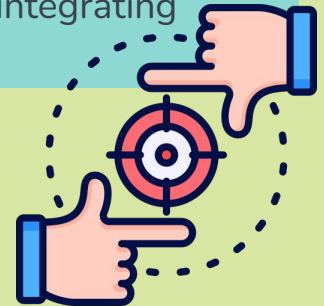
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Purpose of the Presentation

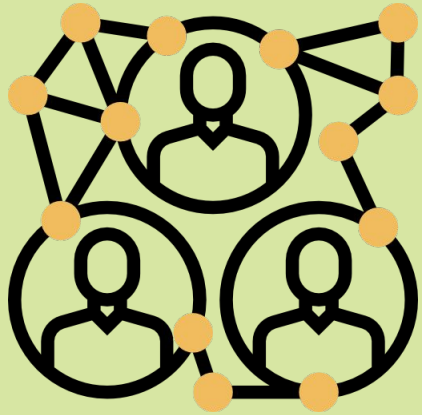
This presentation, will attempt to equip DRF staff with the knowledge to use AI/ Large Language Models (LLMs) responsibly and with an understanding of their limitations.

Our focus areas will include:

- **Sharing Real-Life Scenarios:** Exploring how team engagement harnessed an AI/LLM to assist in drafting a draft of a student engagement vision statement.
- **Discussing AI/LLMs Limitations & Ethics:** Understanding the constraints and ethical considerations of using AI/LLMs.
- **Exploring Efficiency Strategies:** Identifying potential strategies to streamline workflows and enhance efficiency
- **Making Recommendations:** Proposing possible recommendation for integrating AI/LLMs into the Career Center's operations.



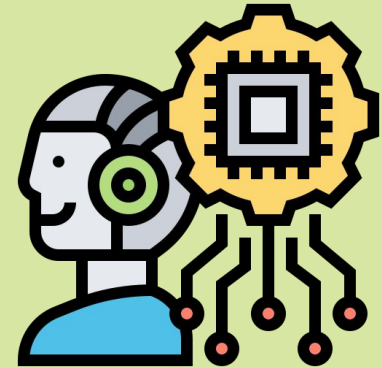
Pres. Pines A.I. Prompt



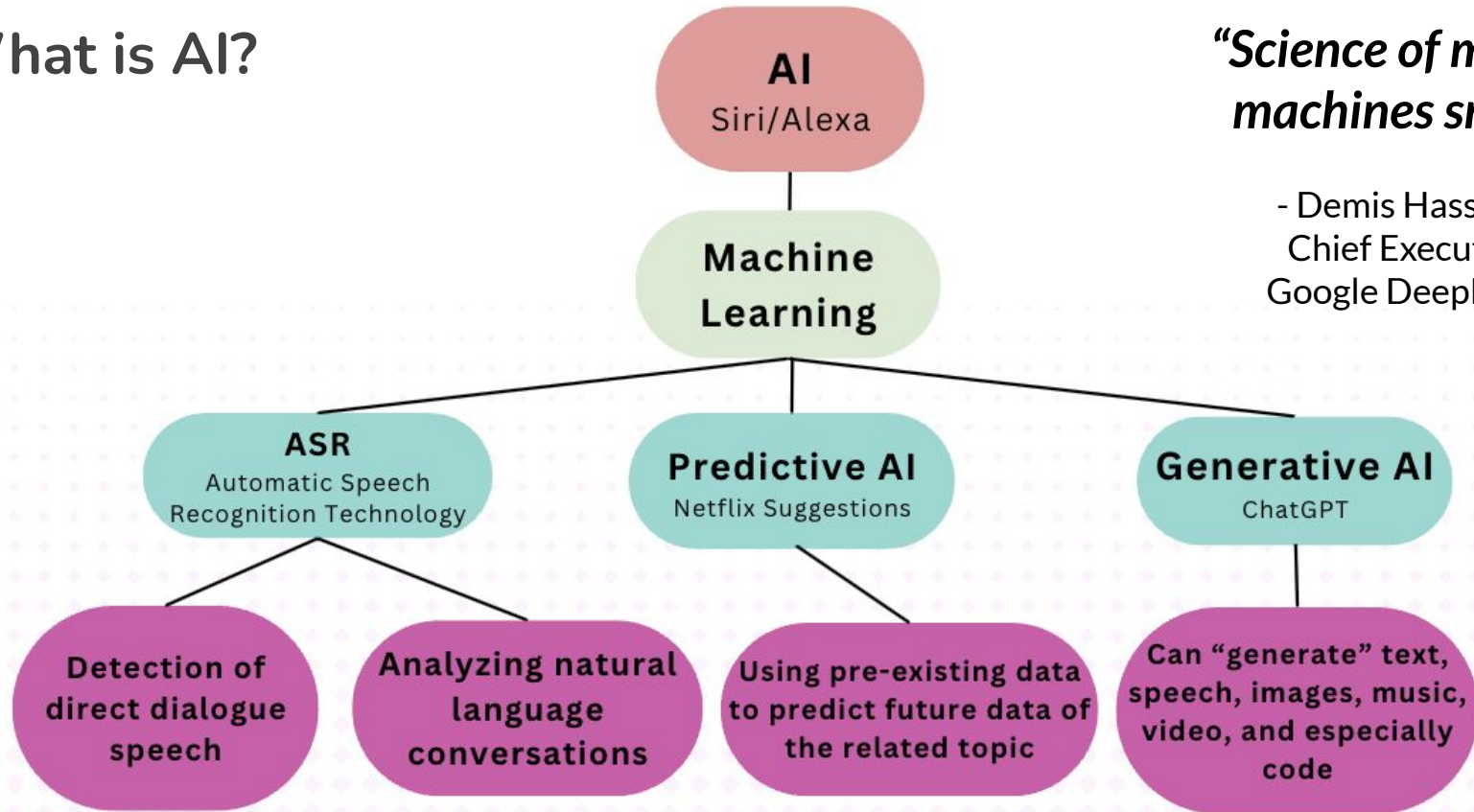
“How can DSA use A.I. to improve either operations, research, education or service of your Division?”

Understanding Large Language Models

- LLMs like ChatGPT, Bing, and Google's BARD, are AI systems trained to understand and generate text **akin to human-like prose**.
- Trained on massive internet text data, **they detect patterns** allowing them to create contextually appropriate text.
- Capabilities include answering questions, essay writing, summarizing text, generating ideas, etc.
- It's essential to remember **LLMs don't 'understand' text or hold personal beliefs**. They base responses on learned patterns.
 - Despite these limitations, LLMs are powerful digital collaborators that **can enhance creativity**, communication, and workflow efficiency.



What is AI?



“Science of making machines smart”

- Demis Hassabis
Chief Executive
Google DeepMind

Large Language Models: An Overview



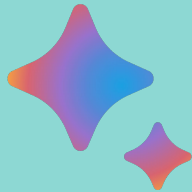
ChatGPT (OpenAI)

- Generates coherent, contextually relevant sentences.
- Ideal for drafting emails, brainstorming, and content creation.



Bing (Microsoft)

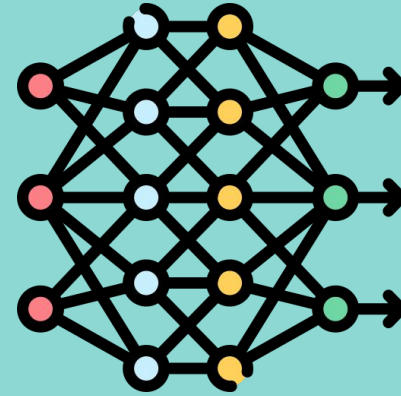
- Understands natural language queries for relevant results.
- Perfect for information gathering, research, and fact-checking.



BARD (Google)

- Transformer-based model for generating human-like text.
- Useful for text creation, Q&A, language translation, and more.

Important: These models lack personal beliefs or experiences and only use provided data. Responses are pattern-based, learned during training.



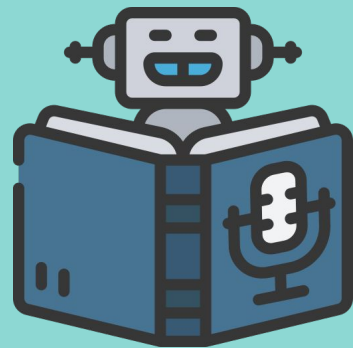
Harnessing the Power of Large Language Models

Effective Queries and Adjustments:

- **Be precise:** Instead of "What's happening?", ask "**What's the current political climate in France?**"
- **Structure questions well:** For **brainstorming**, keep it open-ended like, "Suggest strategic initiatives to boost student engagement."
- **For facts, be specific:** "What are steps for implementing a university-wide diversity initiative?"

Model Settings:

- **Increase temperature for creativity:** 0.8 for "Generate a unique fundraising campaign for our alumni association."
- **Lower it for facts:** 0.2 for "Summarize the latest trends in higher education."
- **Experiment:** Explore AI's full potential by being creative with prompts.



Private Sector Wrestling w/ Ethics & Safety of LLM Use

Three Main Concerns with LLMs in Businesses:

- 1. Data Privacy:** User data in prompts can pose privacy issues.
- 2. IP Rights:** LLMs might overlook attributing original sources.
- 3. Misinformation:** LLMs could generate incorrect or nonsensical outputs.

Samsung 'bans' employees from using OpenAI's ChatGPT

Claudia Glover
After staff leaked chip and device source code into the chatbot, the Korean electronics giant has taken action.
Samsung has reportedly banned its employees from using generative AI tools such as ChatGPT, Bing and Google Bard after the company's source code was leaked by several employees last month. Samsung, which is reportedly working on its own, in-house, AI tools, says the ban is temporary, but it follows several other companies in forbidding their staff from using ChatGPT.

JPMorgan Chase, Citigroup, and Goldman Sachs Block Access to ChatGPT

February 27, 2023

JPMORGAN CHASE & CO

Apple Joins A Growing List Of Companies Cracking Down On Use Of ChatGPT By Staffers—Here's Why

Siladiya Ray • May 19, 2023,
Topline

Apple has blocked the use of AI tools for some of its staffers, becoming the latest major firm to restrict the use of generative AI platforms at work, amid concerns employees may leak sensitive internal data.

THE WALL STREET JOURNAL

ChatGPT Can Save You Hours at Work. Why Are Some Companies Banning It?

As bosses fret over generative AI, many employees embrace it

Using Language Models Safely and Responsibly

Acknowledging the Limitations:

- LLMs can't discern or appreciate context like humans. They **may overlook cultural nuances** or sensitive topics.
- LLMs **don't hold personal beliefs**, opinions, or experiences. They generate text based on training data, not personal perspectives.
- LLMs aren't infallible and **can fabricate facts**. Use them judiciously, supplementing AI outputs with human judgement.



Navigating Potential Biases in LLMs

- **LLM biases can reflect societal biases found in training data.** For instance, an LLM might perpetuate gender stereotypes, like linking nurses to women and engineers to men.
- **Privacy is crucial. Avoid using LLMs for confidential information.** Despite not storing personal data, always adhere to UMD data privacy policies.



Creative Uses of LLMs



1. Resumes & Cover Letters:

Use LLMs to help refine your resume and help you prepare layout of your resume. Asking the right questions can help!



2. Idea Generation:

Leverage it to brainstorm innovative solutions, create outlines, new initiatives, or ways to improve office efficiency.

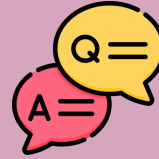


3. Research Tool:

Utilize it to quickly find information or summarize complex topics relevant to your work.



4. **Data Analysis:** Use LLMs to analyse qualitative and quantitative data.



5. **Interviews:** Using LLM to analyze your resume, and assist with answering potential interview questions.



6. **Policy Explanation:** Use LLMs to explain complex policies in simple language for better understanding.



7. **Meeting Preparation:** Generate talking points or draft agendas for upcoming meetings.

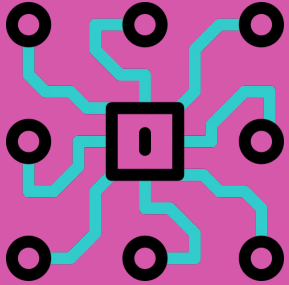


8. **Proofreading Materials:** LLMs can review any text inputted and check for errors, correct errors, and alter the tone of imputed text.

Example of Resume CGPT Prompt

IMR

“I am seeking a project management role. Based on my resume, please create a table with three columns. In the first column, list the skills required for project management. The second column should highlight my transferable skills from my experience, and the third column should detail my specific past experiences. Here is my resume for reference: (Paste resume here)”



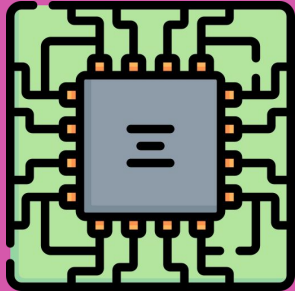
Example of Resume CGPT Prompt Output



ChatGPT

Certainly! Based on your resume, here is a table that highlights the skills required for project management, your transferrable skills, and specific experiences:

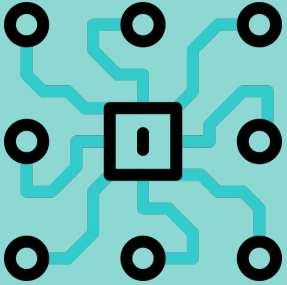
Skills Required for Project Management	Transferrable Skills	Specific Past Experiences
Project Planning and Strategy	Strategic Planning,	- Formulated strategic plans for the training committee and various departments, demonstrating a proactive approach to organizational needs.
	Leadership,	- Orchestrated engaging icebreakers and energizers for meetings, fostering a positive and inclusive atmosphere.
	Organizational	- Contributed to the University of Maryland's Division of Student Affairs department-wide programs, fostering a spirit of collaboration.
	Proficiency in Data	- Proficient in extracting actionable insights from both quantitative and qualitative data using R-Studio.
Communication and Collaboration	Interpersonal Skills,	Conducted regular one-on-one sessions with Graduate Assistant Buddies, providing





Example of Interview CGPT Prompt

IMR



“What questions should I be prepared to answer in an interview for a project management role?” (make sure to paste your resume below the prompt)

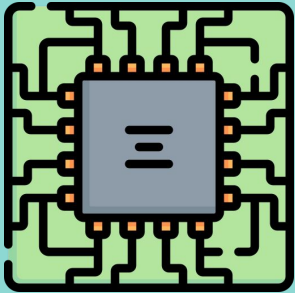
Example of Interview CGPT Prompt Output



ChatGPT

In a project management interview, you can expect a mix of behavioral, situational, and technical questions. Here's a list of common questions you should be prepared to answer:

- 1. Can you walk me through your experience in project management?**
 - Provide a brief overview of your project management background, highlighting key roles, responsibilities, and achievements.
- 2. What project management methodologies are you familiar with, and which do you prefer?**
 - Discuss your knowledge of methodologies like Agile, Scrum, Waterfall, and explain how you've applied them in your previous roles.
- 3. How do you approach project planning and scheduling?**
 - Talk about your methods for creating project plans, setting milestones, and developing realistic timelines.
- 4. How do you handle scope changes during a project?**
 - Describe your process for evaluating and managing changes to project scope, including the impact on timelines and resources.
- 5. Tell me about a time when you had to resolve a conflict within a project team.**
 - Share a specific example, highlighting your conflict resolution skills and the positive outcome for the team.
- 6. How do you ensure effective communication within a project team?**





**Discussion Question:
SHOULD using AI
during an interview be
permitted?**

Example of an Quantitative Prompt

Sample regression table

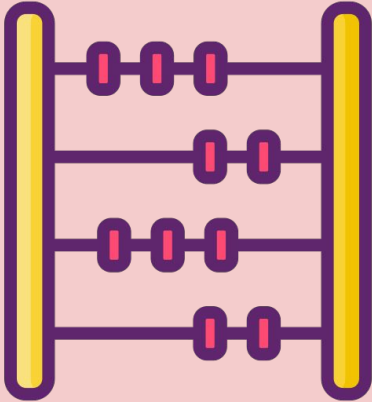
Table 3

Moderator Analysis: Types of Measurement and Study Year

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Fixed effects					
Intercept	.119	.040	.041	.198	.003
Creativity measurement ^a	.097	.028	.042	.153	.001
Academic achievement measurement ^b	-.039	.018	-.074	-.004	.03
Study year ^c	.0002	.001	-.001	.002	.76
Goal ^d	-.003	.029	-.060	.054	.91
Published ^e	.054	.030	-.005	.114	.07
Random effects					
Within-study variance	.009	.001	.008	.011	<.001
Between-study variance	.018	.003	.012	.023	<.001

Note. Number of studies = 120, number of effects = 782, total *N* = 52,578. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

^a 0 = self-report, 1 = test. ^b 0 = test, 1 = grade point average. ^c Study year was grand centered. ^d 0 = other, 1 = yes. ^e 0 = no, 1 = yes.



Example of CGPT Quantitative Output



Kevin's ChatGPT Prompt:

“Write an analysis of the data inputted above contained in the regression table as if it was for an academic journal”



The present study used a linear mixed-effects regression model to investigate the effects of several predictor variables on a response variable of interest. The fixed effects section of the model output provides estimates of the coefficients for each predictor variable, along with their standard errors and p-values. The intercept term indicates the expected value of the response variable when all predictor variables are set to zero. The other predictor variables included in the model were creativity measurement, academic achievement measurement, study year, goal, and published. The results indicate that creativity measurement was positively associated with the response variable (estimate = 0.097, SE = 0.028, $p < .001$), while academic achievement measurement was negatively associated with the response variable (estimate = -0.039, SE = 0.018, $p = .03$). Study year, goal, and published were not significantly associated with the response variable ($p > .05$).



The random effects section of the model output provides estimates of the variance components for the within-study variance and the between-study variance. The within-study variance represents the variability in the response variable that is due to random fluctuations within each study included in the model. The between-study variance represents the variability in the response variable that is due to differences between the studies included in the model. The results indicate that the within-study variance was relatively small (estimate = 0.009, SE = 0.001, $p < .001$), while the between-study variance was somewhat larger (estimate = 0.018, SE = 0.003, $p < .001$).

Overall, the present study provides evidence for the importance of creativity and academic achievement in predicting the response variable of interest, while also highlighting the need to consider the variability that can arise both within and between studies in this area. These findings have important implications for the development of interventions and strategies aimed at promoting the response variable of interest, as well as for the design and analysis of future studies in this area.

Example of CGPT Quantitative Output #2

Kevin's ChatGPT

Prompt: “Explain the output above in plain English”



The output is from a statistical model that was used to examine the relationship between several predictor variables and a response variable of interest. The model estimates how each predictor variable affects the response variable while accounting for the effects of other predictor variables.



The fixed effects section of the output shows that creativity measurement was found to have a positive effect on the response variable, while academic achievement measurement had a negative effect. The other predictor variables did not have a significant effect on the response variable.

The random effects section of the output shows that there was some variability in the response variable that was due to differences between the studies included in the model, as well as variability that was due to random fluctuations within each study.

In summary, the model suggests that creativity and academic achievement are important predictors of the response variable, and that there is variability in the response variable that can be attributed to both differences between studies and random fluctuations within studies. These findings may be useful for guiding the development of interventions or strategies aimed at improving the response variable, and for informing the design and analysis of future studies in this area.

Example of CGPT Quantitative Output #3

Kevin's ChatGPT

Prompt: "Explain the output like I was in middle school"



Imagine we want to know how different things might affect a certain outcome. We looked at several different factors to see if they would have an impact. Those factors were creativity, academic achievement, study year, goal, and whether something had been published about the topic.



The output gives us some numbers to help us understand how important each factor was in predicting the outcome. For example, we found that creativity had a positive effect on the outcome. This means that when someone is more creative, the outcome is more likely to be positive. On the other hand, academic achievement had a negative effect on the outcome. This means that when someone has better academic achievement, the outcome is less likely to be positive.

The output also tells us that there was some variation in the outcome that we couldn't explain with the factors we looked at. Some of this variation was because the studies we looked at were different from each other, and some was just due to chance.

Overall, we learned that creativity and academic achievement are important factors to consider when trying to predict the outcome. We also learned that there are some other factors that may be important, but we didn't find evidence for them in this study.

Future of LLMs: Implications for Daily Practice

Upcoming Enhancements to Gmail & Google Drive:

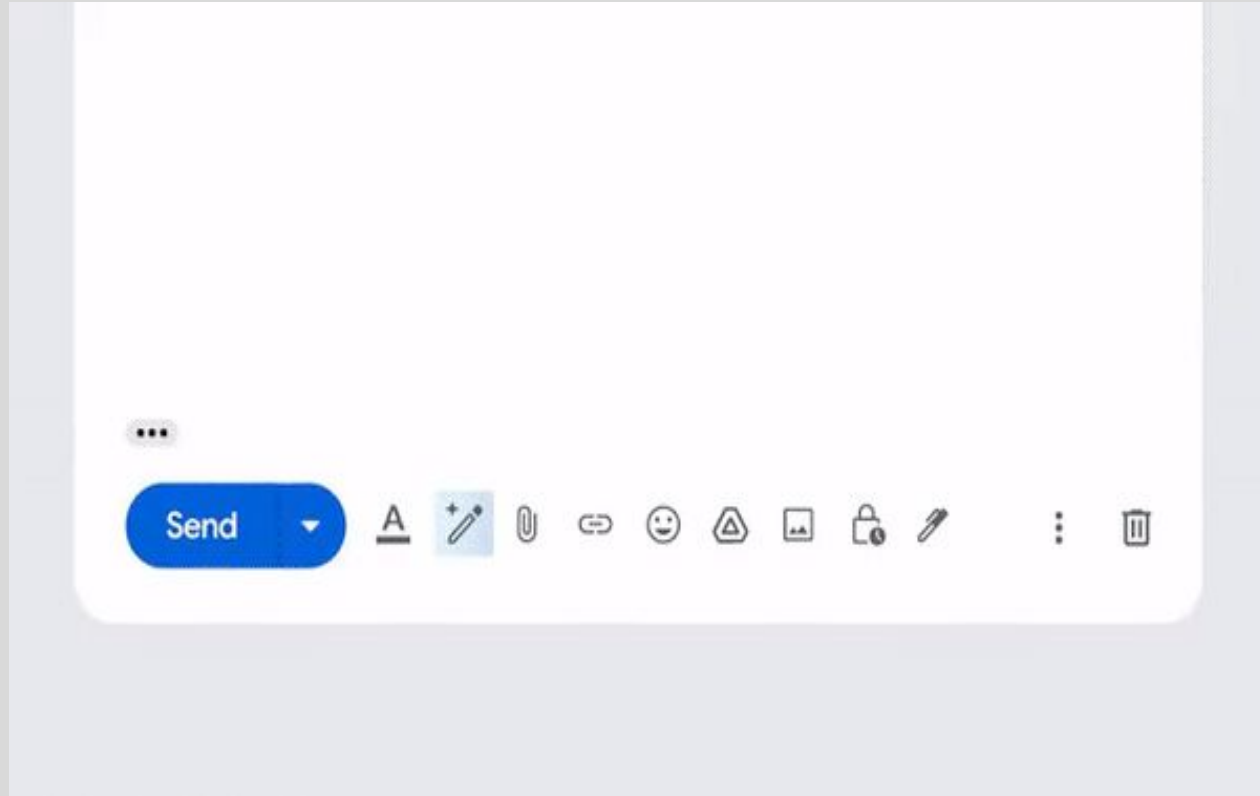
1. "Help Me Write":

Auto-generates emails in various styles based on user prompts in Gmail.

2. "NotebookLM":

An AI tool in experimental phase, organizes and summarizes freeform notes using a personalized AI model."

Google's Forthcoming "Help Me Write" Feature Demo:

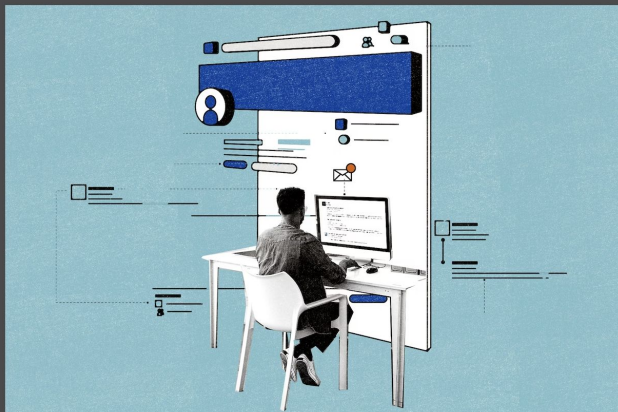


Key Takeaways from Washington Post Article on AI in Job Search

Improve your chances of getting noticed by AI on job sites with these tips

How to best work with AI matching systems on popular job sites such as LinkedIn, Indeed and ZipRecruiter.

Danielle Abril



(Illustration by Elena Lacey/The Washington Post; iStock)

Increasing Competition: Job seekers face stiff competition on major job platforms like LinkedIn, Indeed, and ZipRecruiter due to AI-driven matching systems.

AI's Role: AI not only considers a candidate's skills but also historical behavior of employers on these platforms.

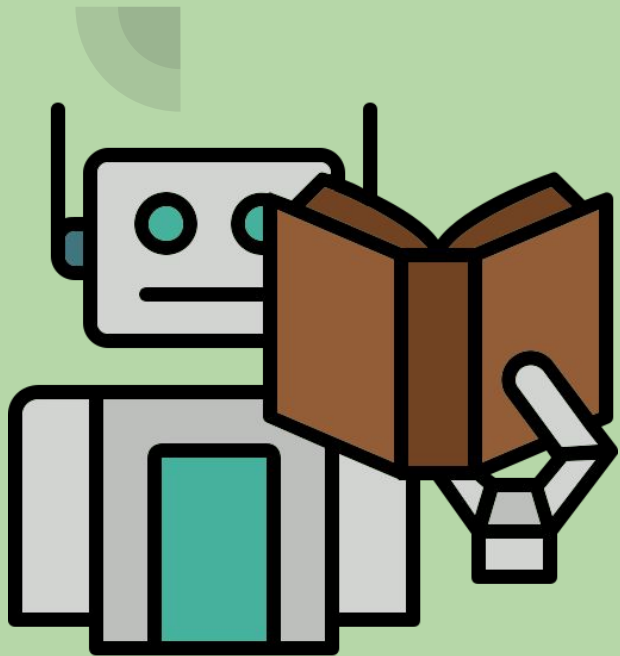
User Empowerment: Job seekers can strategically position themselves by understanding how these AI algorithms work.

Profile Completeness: A fully filled-out profile with relevant skills can significantly improve job matching.

Keyword Optimization: Using common industry keywords can make a profile more discoverable by both AI and human recruiters.

Networking: *Personal connections remain valuable; talking to someone at the hiring company can give job seekers an edge.*

How Employers Are Using LLMs/Artificial Intelligence



Application Screening: AI tools automatically sift through resumes, prioritizing candidates based on qualifications and keyword matches.

Cover Letter Analysis: Sophisticated algorithms scrutinize cover letters for elements such as relevance to the job description and writing quality.

Behavioral Analytics: Some platforms use AI to analyze behavioral cues in video interviews, providing additional data points for assessment.

Automated Shortlisting: AI helps employers narrow down large applicant pools by predicting which candidates are the most likely to succeed in specific roles.

Skill Matching: AI systems map candidate skills to job requirements, offering a more nuanced view of suitability beyond just keywords.

Bias Mitigation: Employers are turning to AI to help reduce unconscious bias by anonymizing certain sections of resumes during the initial screening process.

Note: *The growing use of AI in recruitment is changing how employers approach hiring, making it imperative for job seekers to understand these technologies.*

Risks of Using LLMs/AI in Academic Work



Reasons to be Cautious Utilizing AI/LLMs in Academia:

Plagiarism Risks:

- AI-generated content can be difficult to cite properly and isn't your own work, posing a risk of plagiarism.

Quality & Reliability:

- AI-generated information may lack scholarly rigor, potentially including inaccuracies or overly generalized statements.

Ethical Violations:

- UMD does have academic integrity policies; using AI to complete assignments **could be** considered cheating (*read syllabi carefully*).

Skill Development:

- Relying on AI for research and writing tasks hampers the development of critical skills needed in academic and professional life.

Large Language Model Resources

Most Popular LLMs to Explore Now:

- “BING”: <https://tinyurl.com/3k6hcukc>
- “ChatGPT”: <https://chat.openai.com/auth/login?next=/chat>
- “BARD”: <https://bard.google.com/>

Articles/Media to Learn More:

- Charlie Chang: “ChatGPT Tutorial: How to Use Chat GPT For Beginners 2023”:
https://www.youtube.com/watch?v=Gaf_jCnA6mc
- NYTimes: “35 Ways Real People Are Using A.I. Right Now”:
<https://www.nytimes.com/interactive/2023/04/14/upshot/up-ai-uses.html>
- Washington Post: “Can ChatGPT Help Me at Work?”: <https://wapo.st/3lkfKd3>
- TikTok: “The Corporate Mama: TikTok at Work”:
<https://www.tiktok.com/@thecorporatemama/video/7233877152435932462>
- NYTimes: “What Makes A.I. Chatbots Go Wrong?”:
<https://www.nytimes.com/2023/03/29/technology/ai-chatbots-hallucinations.html>
- NYTimes: “Get the Best From ChatGPT With These Golden Prompts”:
<https://www.nytimes.com/2023/05/25/technology/ai-chatbot-chatgpt-prompts.html>

Thank you! Questions?

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