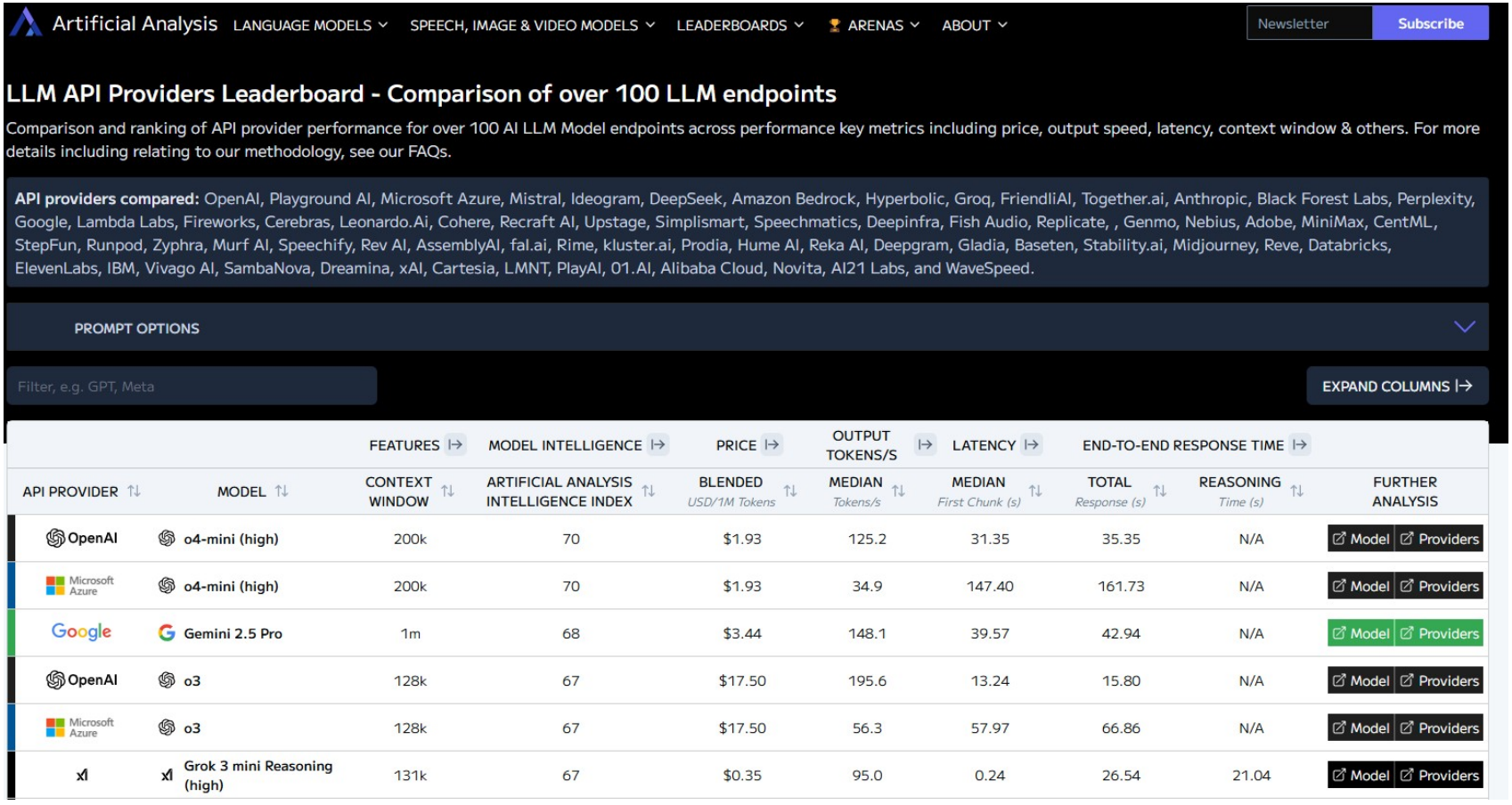
Masterclass in Social Research

AI for Social Research: Overview

Large language models: From classification to "generation"



Artificial Analysis LANGUAGE MODELS SPEECH, IMAGE & VIDEO MODELS LEADERBOARDS ARENAS ABOUT Newsletter Subscribe

LLM API Providers Leaderboard - Comparison of over 100 LLM endpoints

Comparison and ranking of API provider performance for over 100 AI LLM Model endpoints across performance key metrics including price, output speed, latency, context window & others. For more details including relating to our methodology, see our FAQs.

API providers compared: OpenAI, Playground AI, Microsoft Azure, Mistral, Ideogram, DeepSeek, Amazon Bedrock, Hyperbolic, Groq, FriendliAI, Together.ai, Anthropic, Black Forest Labs, Perplexity, Google, Lambda Labs, Fireworks, Cerebras, Leonardo.Ai, Cohere, Recraft AI, Upstage, Simplismart, Speechmatics, Deepinfra, Fish Audio, Replicate, , Genmo, Nebius, Adobe, MiniMax, CentML, StepFun, Runpod, Zyphra, Murf AI, Speechify, Rev AI, AssemblyAI, fal.ai, Rime, kluster.ai, Prodia, Hume AI, Reka AI, Deepgram, Gladia, Baseten, Stability.ai, Midjourney, Reve, Databricks, ElevenLabs, IBM, Vivago AI, SambaNova, Dreamina, xAI, Cartesia, LMNT, PlayAI, 01.AI, Alibaba Cloud, Novita, AI21 Labs, and WaveSpeed.

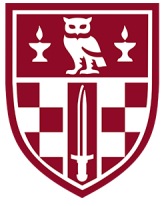
PROMPT OPTIONS

Filter, e.g. GPT, Meta

EXPAND COLUMNS

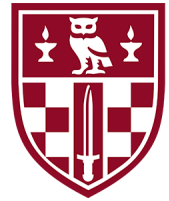
		FEATURES	MODEL INTELLIGENCE	PRICE	OUTPUT TOKENS/S	LATENCY	END-TO-END RESPONSE TIME		
API PROVIDER	MODEL	CONTEXT WINDOW	ARTIFICIAL ANALYSIS INTELLIGENCE INDEX	BLENDED *USD/1M Tokens*	MEDIAN *Tokens/s*	MEDIAN *First Chunk (s)*	TOTAL *Response (s)*	REASONING *Time (s)*	FURTHER ANALYSIS
OpenAI	o4-mini (high)	200k	70	$1.93	125.2	31.35	35.35	N/A	Model Providers
Microsoft Azure	o4-mini (high)	200k	70	$1.93	34.9	147.40	161.73	N/A	Model Providers
Google	Gemini 2.5 Pro	1m	68	$3.44	148.1	39.57	42.94	N/A	Model Providers
OpenAI	o3	128k	67	$17.50	195.6	13.24	15.80	N/A	Model Providers
Microsoft Azure	o3	128k	67	$17.50	56.3	57.97	66.86	N/A	Model Providers
xAI	Grok 3 mini Reasoning (high)	131k	67	$0.35	95.0	0.24	26.54	21.04	Model Providers

https://artificialanalysis.ai/leaderboards/providers



AI and Social Sciences

- Use AI to improve social sciences (see the next slide) or other practical uses such as in
  - Education (for both teachers and students)
  - Newsroom
  - Healthcare and counseling
  - Crime control
- Broad societal impacts of and (potential) changes brought by AI, such as
  - Misinformation and democratic backsliding
  - Group inequality and discrimination
  - Climate change and sustainable development
- Development, regulation and governance of AI – geopolitics of LLMs (e.g., Deepseek)



Announcements | Societal Impacts

Anthropic Education Report: How University Students Use Claude

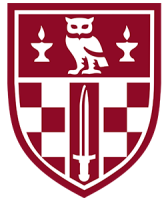
Apr 8, 2025 • 12 min read

https://www.anthropic.com/news/anthropic-education-report-how-university-students-use-claude

https://generative-ai-newsroom.com/

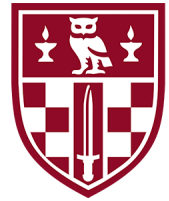
"How ChatGPT and Bing can help" (Hendriksen 2023)

- Identifying and adjusting research ideas/questions and relevant literatures (e.g., what has been done in this area?)
- Locating relevant co-authors and key researchers in the field (e.g. who has worked on this topic?)
- Exposing ideas to simulated and targeted critical readers (e.g. how will my research be received)
- Producing research applications (e.g. develop an outline for research proposal; coding and programming for specified tasks)



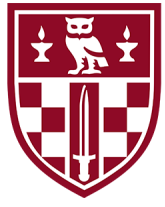
What we can do with AIs: Scale, scope and speed

- Explore human behaviour through "impersonation" (simulation) and human-machine interactions/comparisons – AI agents and agent-based modeling (ABM)
- Text annotation and (qualitative) grounded-theory coding – interviews; natural language processing; discourse, content and thematic analysis (e.g., Geiecke and Jaravel 2024; Korinek 2023; Leek et al 2024)
- Design, implement and replicate surveys, including experiments (see Bail 2024)
- (Statistical) programming – "vibe coding" (!?), more in Adv Topics in Quant Social Research



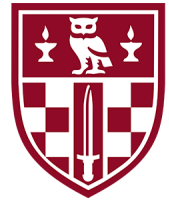
Yale 2024 DISSC AI Lightning Talk

https://www.youtube.com/watch?v=dBh_9pKOxd4&t=118s



Caveats

- Human bias – sure, but perhaps an opportunity to "reverse engineer" the (re)production of different biases?
- Junk science and quality control – domain-specific retrieval-augmented generation (RAG)?
- Ethics, perhaps both as a problem and solution – deception and simulation?
- Transparency and replicability – performance evaluation, prompt tweaking and model comparison?



TECHNOLOGY

‘The Worst Internet-Research Ethics Violation I Have Ever Seen’

The most persuasive “people” on a popular subreddit turned out to be a front for a secret AI experiment.

By Tom Bartlett

Illustration by The Atlantic

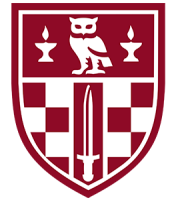
MAY 2, 2025

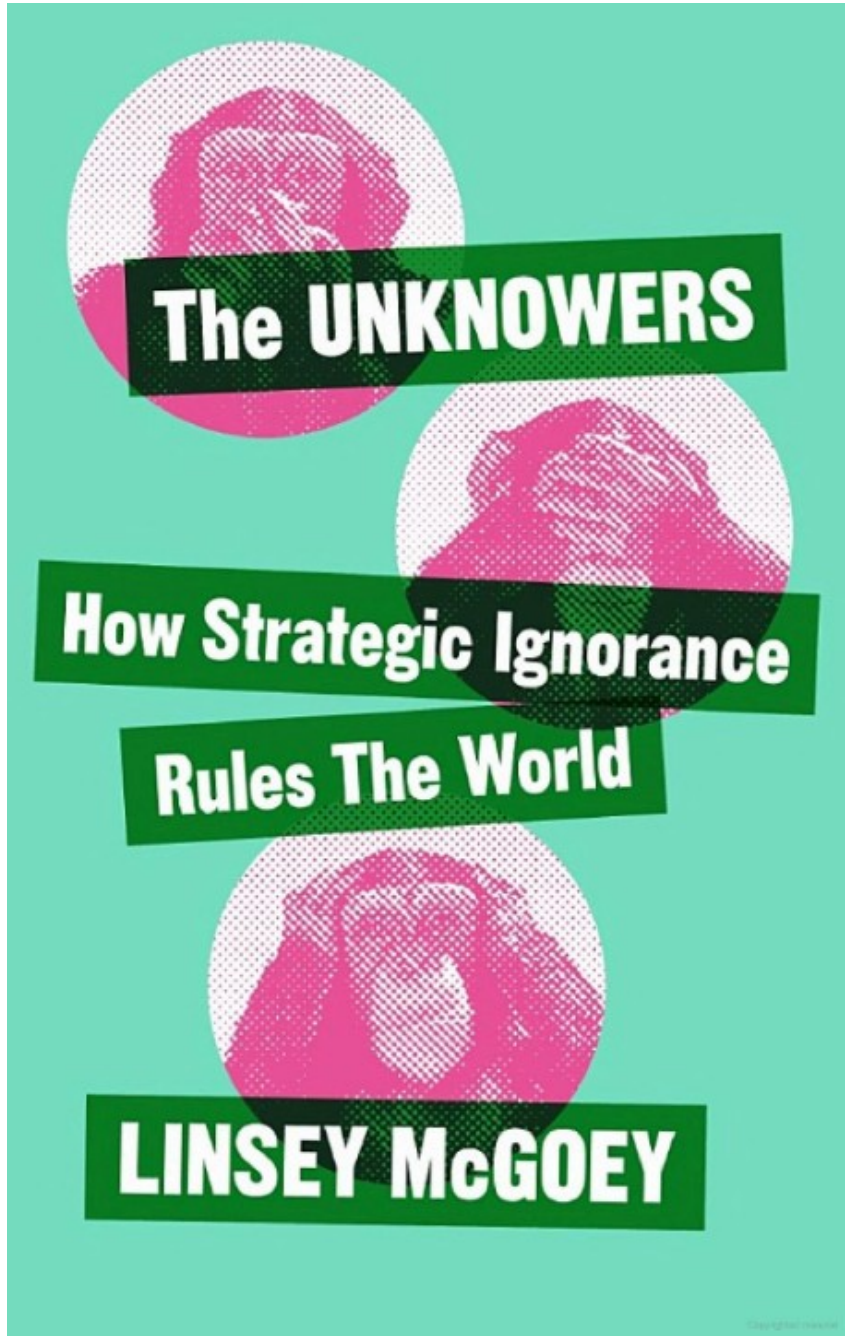
SHARE SAVE

https://www.theatlantic.com/technology/archive/2025/05/reddit-ai-persuasion-experiment-ethics/682676/

Questions to consider

- Now AI has become a possibility – how might you incorporate AI into your research? How comfortable are you with using AI for research purposes? Why?
- Bail (2024) listed a lot of promising research opportunities and questions, which one would like to explore further? What else?
- In order to take advantage of AI, what might be the skills that you need to acquire? How much AI do you have to "know?" Perhaps apply the principle of "strategic ignorance" (Linsey McGoey 2019)?




The UNKNOWERS
How Strategic Ignorance
Rules The World
LINSEY McGOEY

Appendix: GenAI for plausibility checks

- Without using ChatGPT and Bing, imagine how you can integrate AI into your research practice and workflows
- Ask ChatGPT and Bing to see what they can do for your research. Are these suggestions at the risk of violating the College's policy on AI and academic integrity?
- Ask ChatGPT and Bing in general what they can do for qualitative and/or quantitative (social) researchers