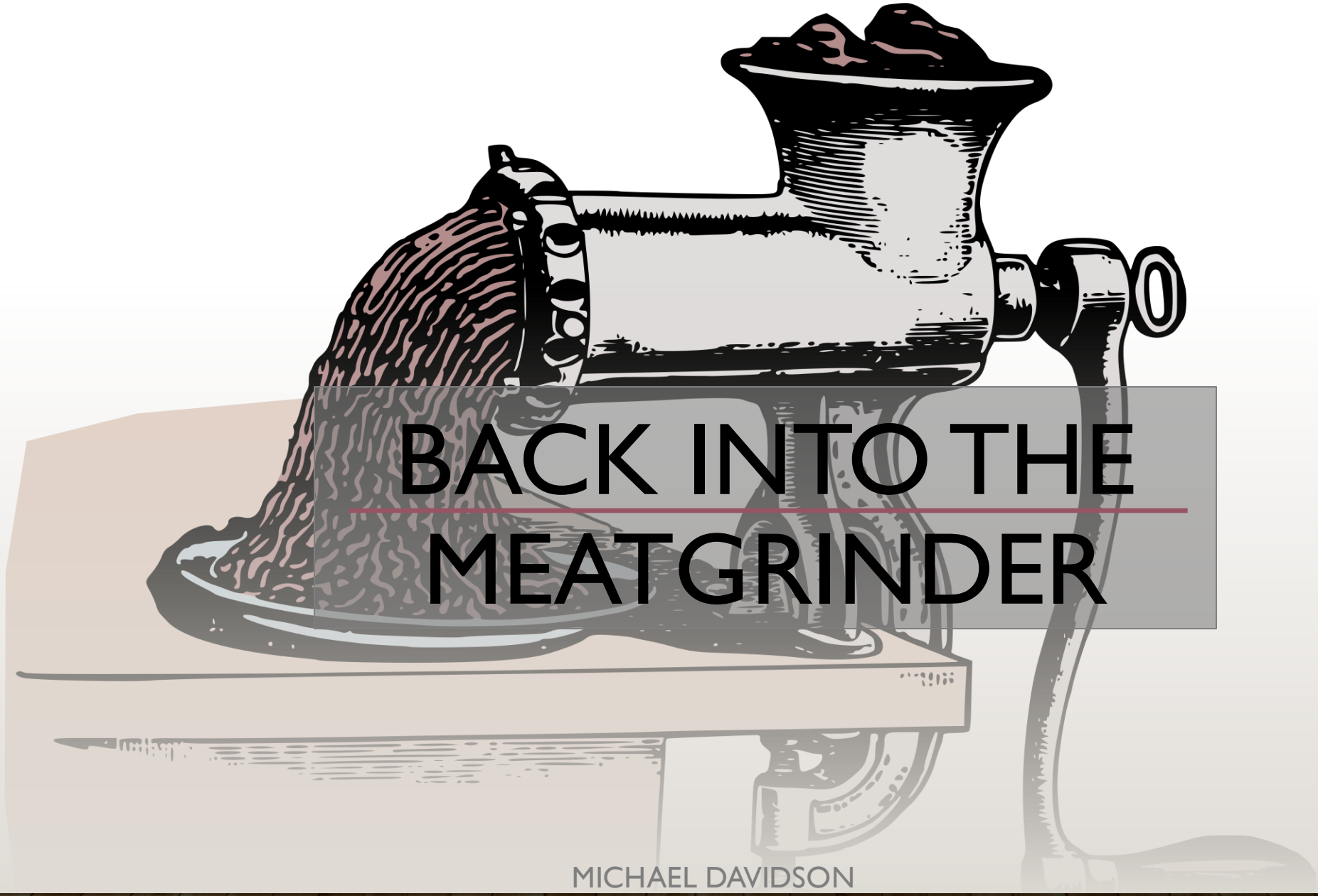


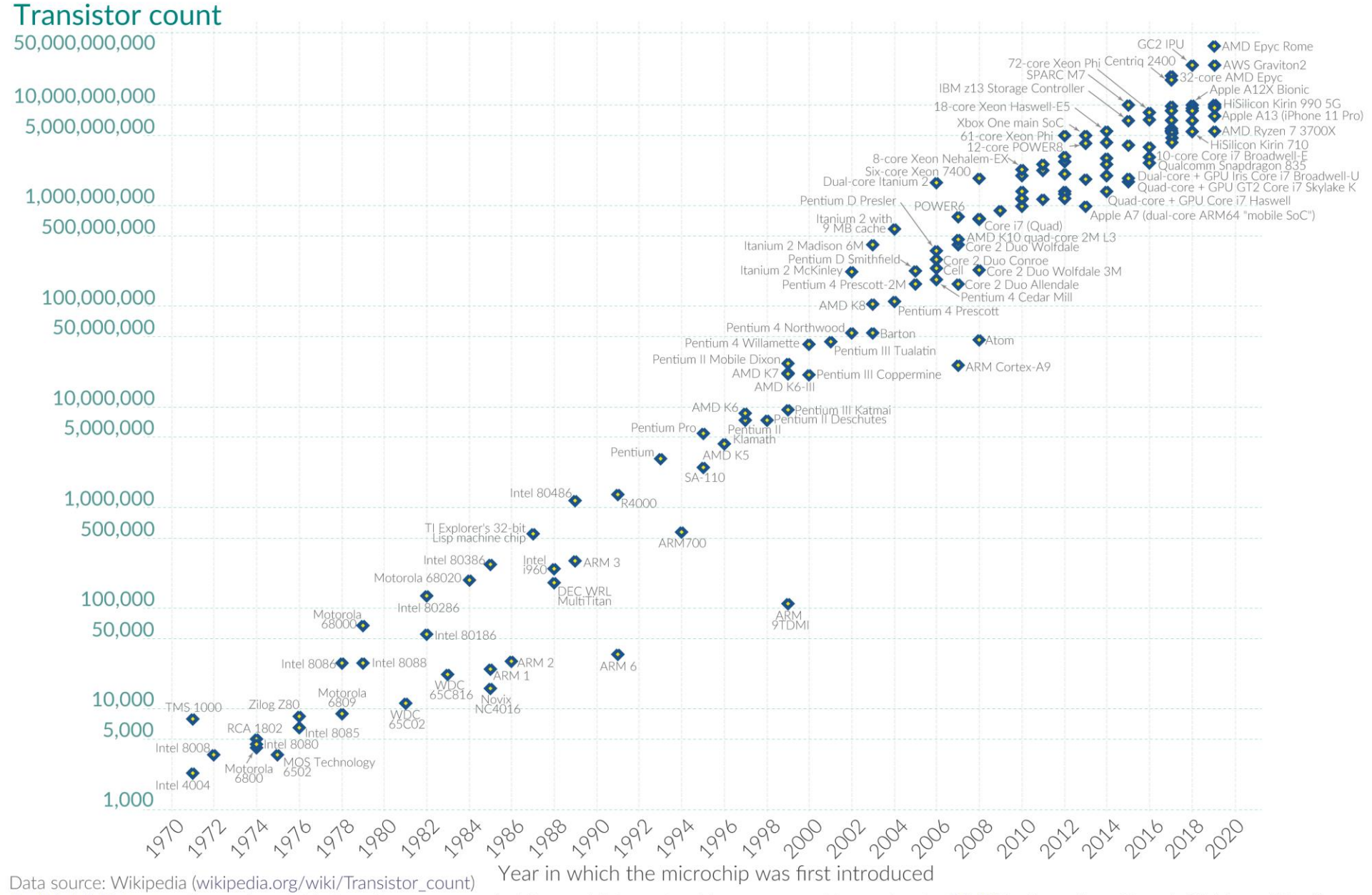
BACK INTO THE MEATGRINDER

MICHAEL DAVIDSON

Moore's Law: The number of transistors on microchips doubles every two years

Our World in Data

Moore's law describes the empirical regularity that the number of transistors on integrated circuits doubles approximately every two years. This advancement is important for other aspects of technological progress in computing – such as processing speed or the price of computers.



Data source: Wikipedia (wikipedia.org/wiki/Transistor_count)

OurWorldinData.org – Research and data to make progress against the world's largest problems.

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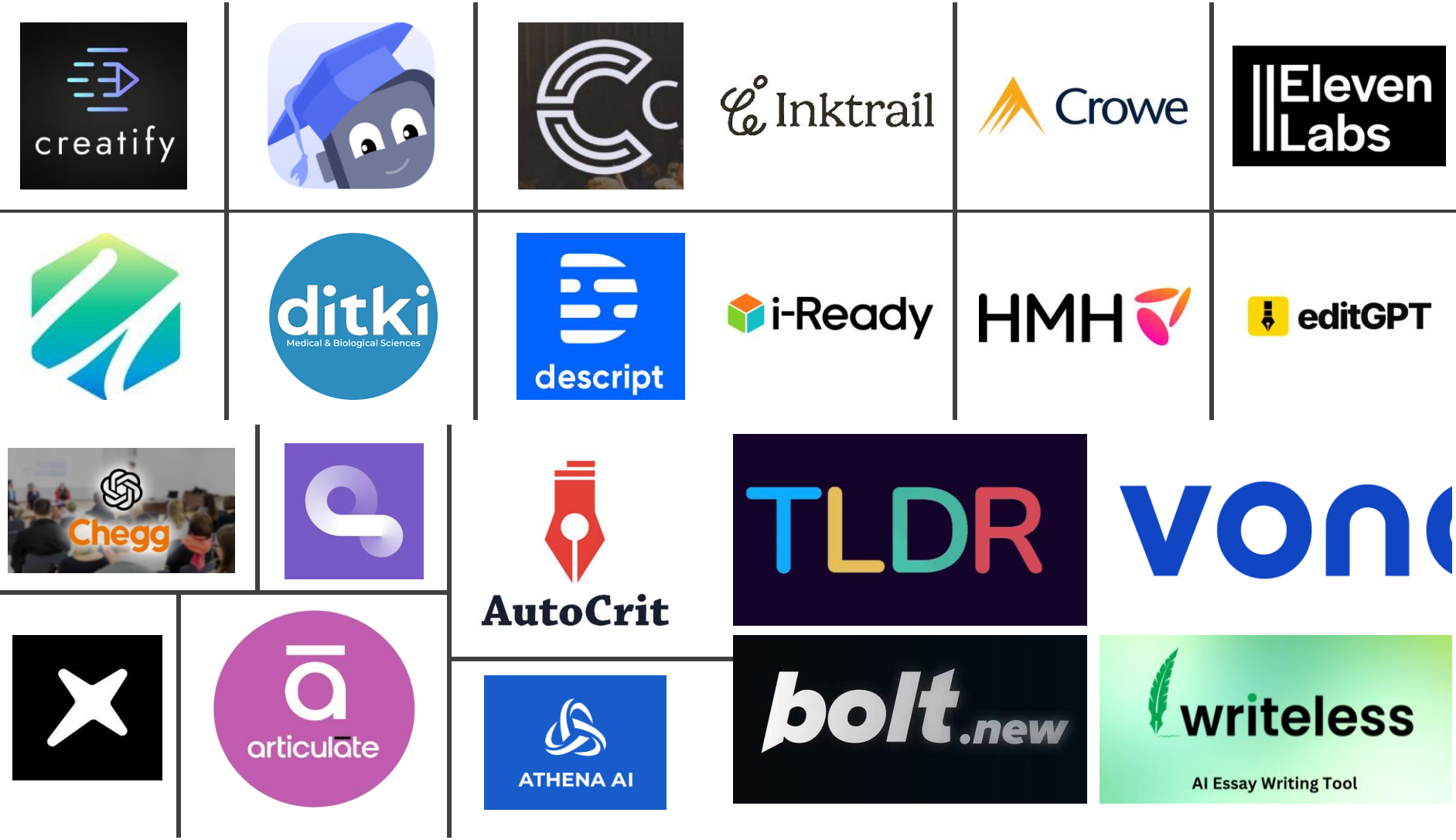
consensus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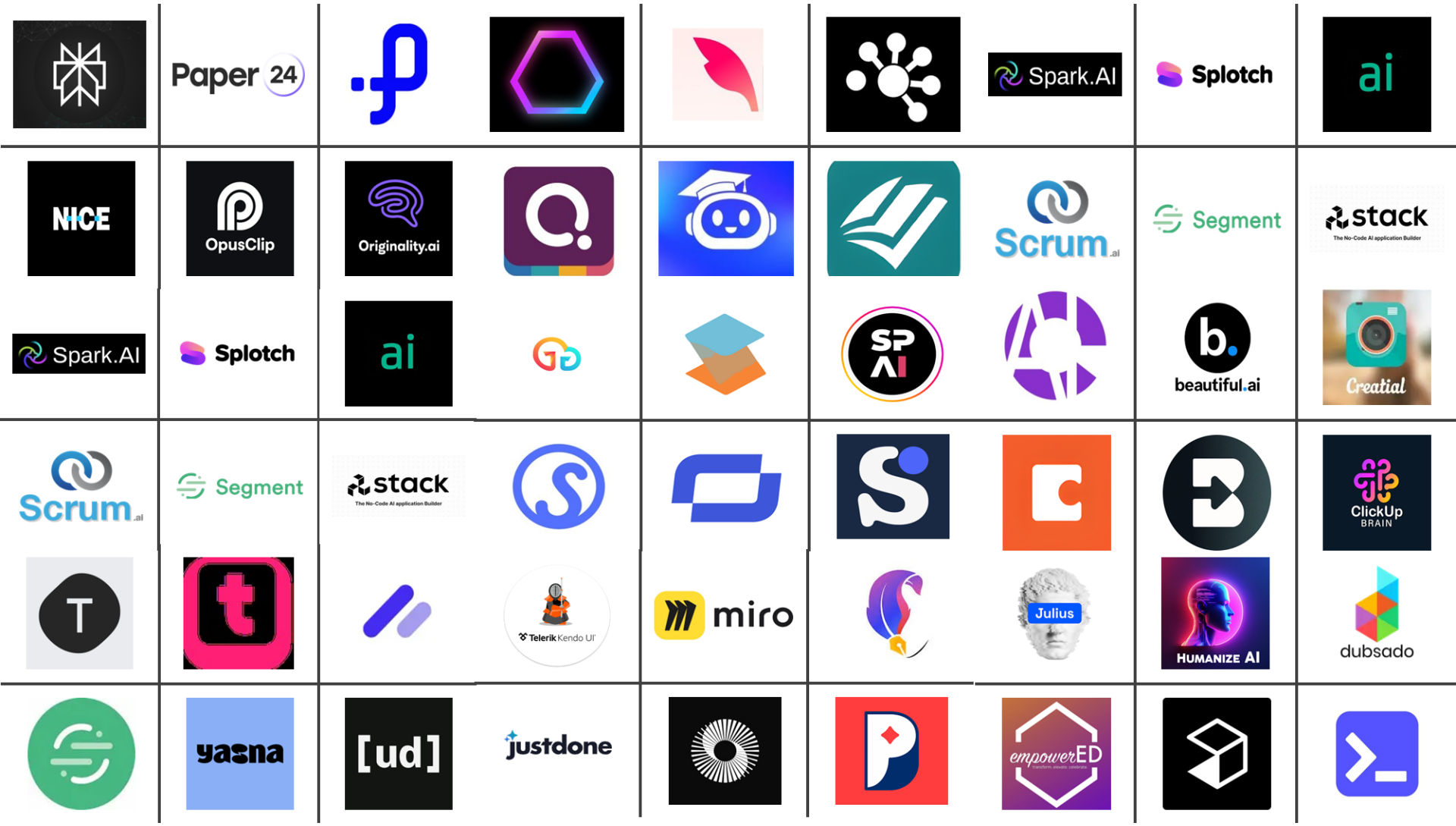
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Article | Open access | Published: 24 July 2024

AI models collapse when trained on recursively generated data

Ilia Shumailov, Zakhar Shumaylov, Yiren Zhao, Nicolas Papernot, Ross Anderson & Yarin Gal

Nature **631**, 755–759 (2024) | Cite this article

452k Accesses | **3208** Altmetric | Metrics

An Author Correction to this article was published on 21 March 2025

This article has been updated

Abstract

Stable diffusion revolutionized image creation from descriptive text. GPT-2 (ref. [1]), GPT-3(.5) (ref. [2]) and GPT-4 (ref. [3]) demonstrated high performance across a variety of language tasks. ChatGPT introduced such language models to the public. It is now clear that generative artificial intelligence (AI) such as large language models (LLMs) is here to stay and will

Elicit

Scite

Consensus

Perplexity

Copilot

ChatGPT

RESEARCH TOPICS

- Literature review of post-traumatic stress disorder and depression in elementary school children of immigrant families in the United States
- What were feminist perspectives on the kitchen debate between Richard Nixon and Nikita Khrushchev? Use primary sources if possible
- Annotated bibliography on the treatment of adolescent idiopathic scoliosis

PTSD IMMIGRANT CHILDREN

Sources in common	Consensus	Elicit	Scite
Consensus	7	1	0
Elicit	1	8	0
Scite	0	0	8

KITCHEN DEBATE

Sources in common	Consensus	Elicit	Scite
Consensus	10	1	0
Elicit	1	8	0
Scite	0	0	5

ADOLESCENT IDIOPATHIC SCOLIOSIS

Sources in common	Consensus	Elicit	Scite
Consensus	10	1	0
Elicit	1	8	0
Scite	0	0	9

PTSD IMMIGRANT CHILDREN

Evaluation	ChatGPT	Copilot	Perplexity	Average
Scite	89	93	87	89.7
Elicit	86	93	95	91.3
Consensus	93	93	88	91.3

KITCHEN DEBATE

Evaluation	ChatGPT	Copilot	Perplexity	Average
Scite	96	100	89	95.0
Elicit	84	97	88	89.7
Consensus	80	95	85	86.7

ADOLESCENT IDIOPATHIC SCOLIOSIS

Evaluation	ChatGPT	Copilot	Perplexity	Average
Scite	89	97	95	93.7
Elicit	78	89	91	86.0
Consensus	87	100	98	95.0

TAKEAWAYS

- Search widely in multiple places
- LLMs are heavily sycophantic
- AI research tools can streamline research
- “Hallucination” seems not to plague AI research tools

RECOMMENDATIONS

- Perplexity is quality without commitment
- Consensus provides valuable cues about sources
- Scite worked slowly and has no free tier
- Verify everything

PARTING WISDOM

- Zoe: You sanguine about the kinda reception we're apt to receive on an Alliance ship, Captain?
- Mal: Absolutely. What's "sanguine" mean?
- Zoe: Sanguine. Hopeful. Plus, point of interest, it also means "bloody".
- Mal: Well, that pretty much covers all the options, don't it?