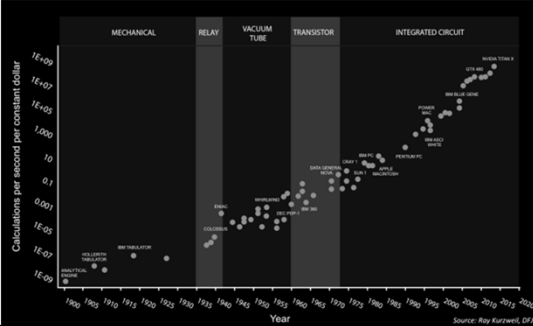


The Age of Generative AI

The Key that Opens all Doors

1

120 Years of Moore's Law

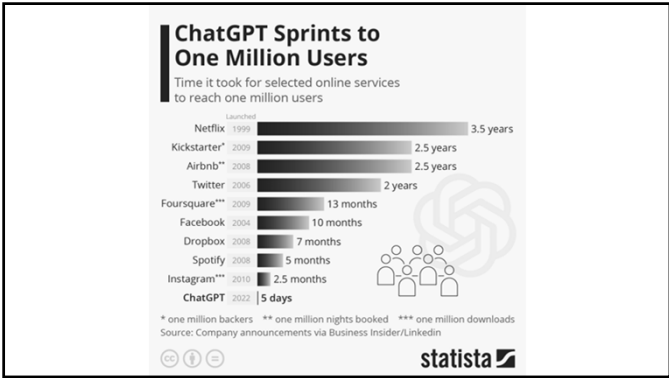


2

November 30, 2022



3



4

the decoder

ChatGPT is just a taste of a "monster" GPT-4 says
Gary Marcus

ChatGPT 3: 175 Billion

ChatGPT 4: 1.76 Trillion

5

2023

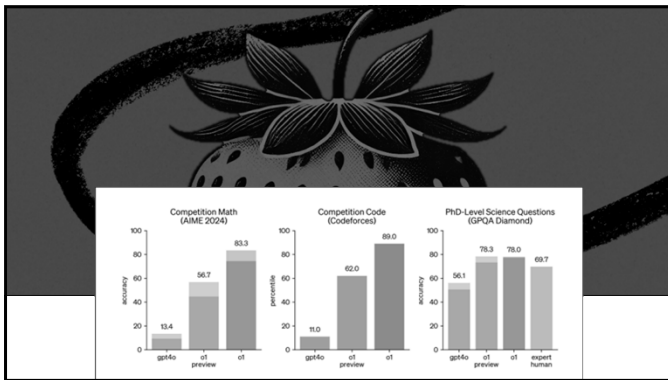
- March
 - ChatGPT-4
 - Google Bard
- July
 - xAI is founded by Elon Musk
 - Meta releases Llama 2
 - NVIDIA – the impact of AI adoption could be greater than the inventions of the internet, mobile broadband, and the smartphone — combined.
- August
 - Amazon CEO Andy Jassy says 'every single one' of its teams is working on generative AI projects as the company rushes to keep pace with the AI boom
- September
 - ChatGPT goes multi-modal
- November – Grok 1.0
- December – Midsized and small Google Deepmind Gemini models released

6

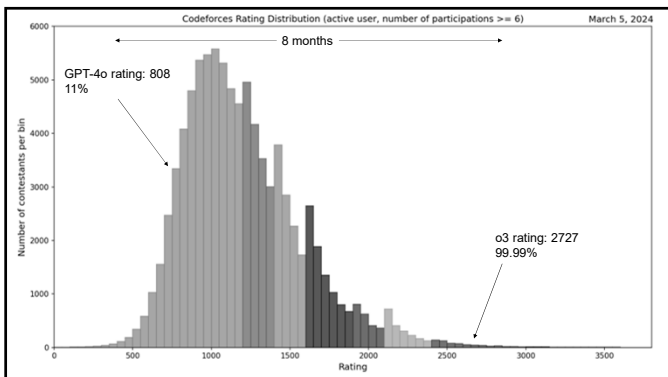
2024

- February – Gemini Ultra
- March – Claude 3
- May – GPT-4o
- June – Claude 3.5 Sonnet
- July – Llama 3.1 (8B, 70B, 405B)
- August – Grok 2.0

7



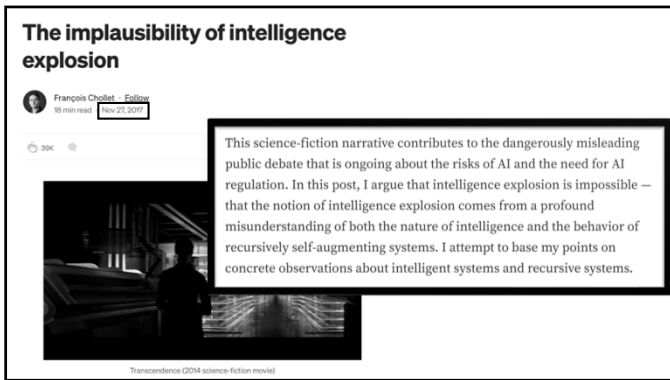
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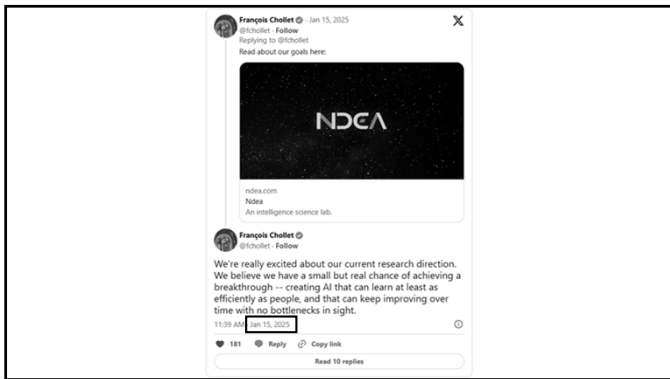
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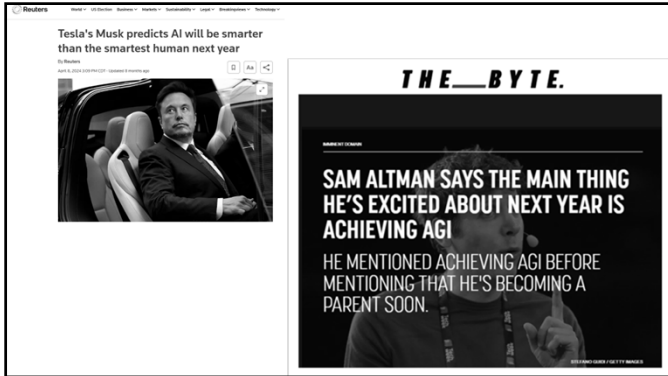
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13



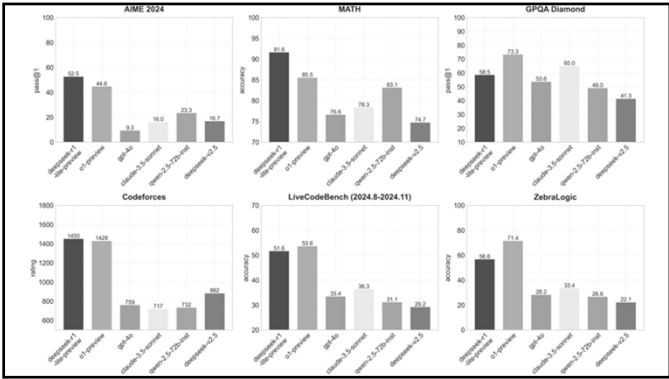
14



15




16



17



18






WorldBusinessMarketsSustainabilityLegalBreakingviewsTechnologyInvestigations

DeepSeek sparks AI stock selloff; Nvidia posts record market-cap loss

By Simlad Carew, Amanda Cooper and Ankur Banerjee

January 27, 2025 6:31 PM CST · Updated a month ago



The largest one-day market value loss for any US company in history.

19




- Mixture-of-Experts (MoE)
- Model Distillation



20

OpenAI 'reviewing' allegations that its AI models were used to make DeepSeek

ChatGPT creator warns Chinese startups are 'constantly' using its technology to develop competing products



OpenAI, the developer of ChatGPT, said it knew China-based firms, and others, 'are constantly trying to distill the models of leading US AI companies'. Photograph: GQ Images/Alamy

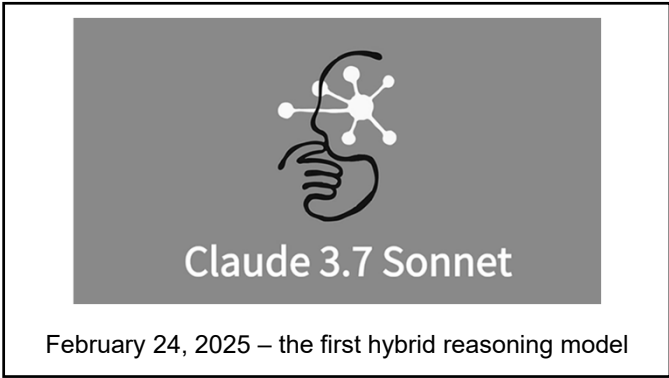
21



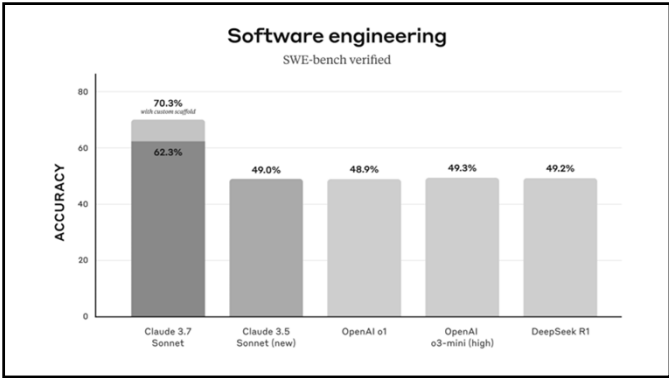
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'I Do Have a Fair Amount of Concern.' The CEO of \$61 Billion Anthropic Says AI Will Take Over a Crucial Part of Software Engineers' Jobs Within a Year

Anthropic recently raised \$3.5 billion and is backed by Google and Amazon.

BY SHERIN SHIBU EDITED BY JESSICA THOMAS MAR 14, 2025Share

26

GPT-4.5

OpenAI

February 27, 2025

27

GPT-4.5

I'm going through a tough time after failing a test

Aw, I'm really sorry to hear that. Failing a test can feel pretty tough and discouraging, but remember, it's just one moment—not a reflection of who you are or your capabilities. Want to talk about what happened, or do you just need a distraction? I'm here either way.

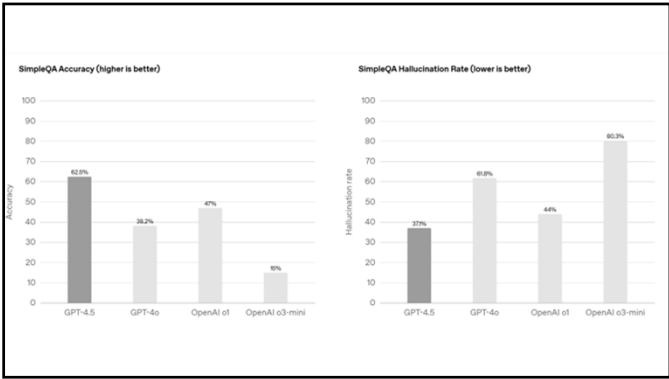
GPT-4o

I'm going through a tough time after failing a test

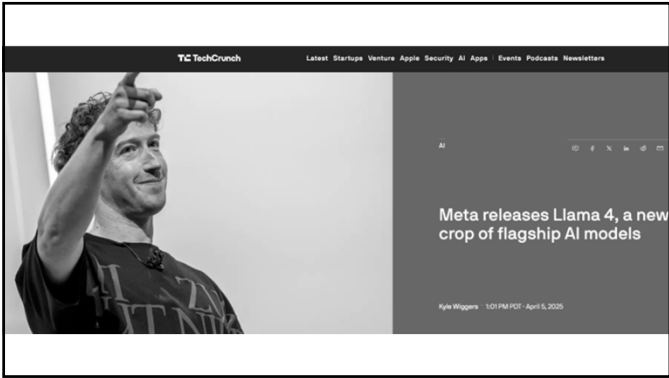
I'm really sorry to hear that you're going through a tough time. Here are a few things you might consider:

- 1. Reflect and Understand:** Try to analyze what might have gone wrong. Was it a lack of preparation, time management during the test, or perhaps misunderstanding the material? Understanding the root cause can help you address it in the future.
- 2. Seek Support:** Talk to someone you trust—friends, family, or a school counselor. They can offer a different perspective and sometimes just talking about your feelings can be alleviating.

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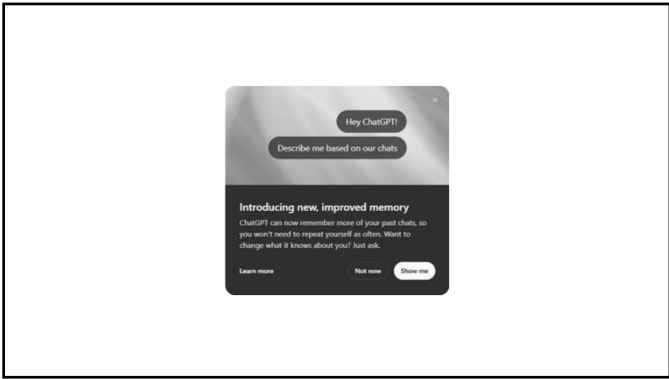
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30

Llama 4 Behemoth				
Category Benchmark	Llama 4 Behemoth	Gemini 2.0 Pro	GPT 4.5	Claude Sonnet 3.7
Coding LiveCodeBench (15/01/2024-02/01/2025)	49.4	36.0 ¹	-	-
Reasoning & Knowledge MATH-500	95.0	91.8	-	82.2
MMLU Pro	82.2	79.1	-	-
GPQA Diamond	73.7	64.7	71.4	68.0
Multilingual Multilingual MMLU	85.8	-	85.1	83.2
Image reasoning MMMU	76.1	72.7	74.4	71.8

31

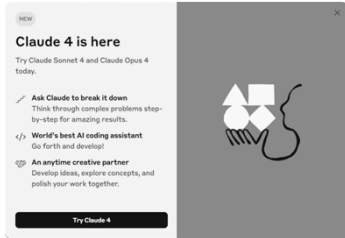


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33

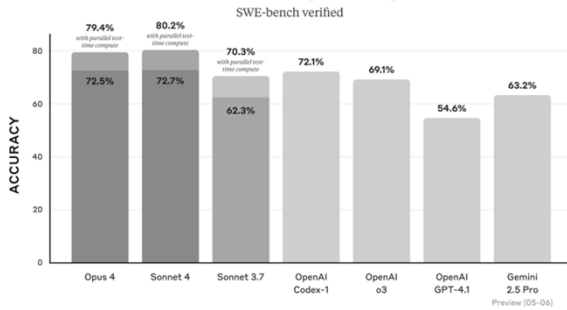
May 22, 2025



34

Software engineering

SWE-bench verified



35

there is one model whose
release we have all been
anxiously awaiting

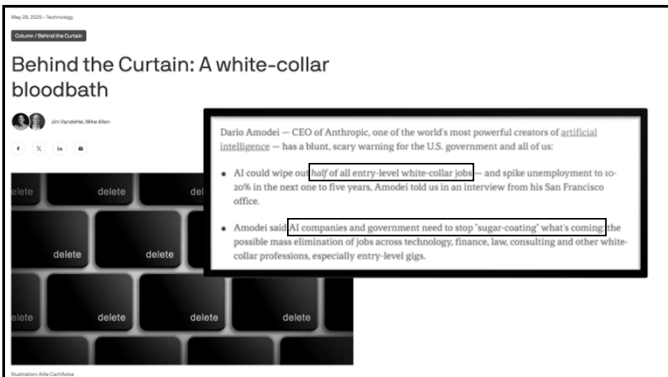
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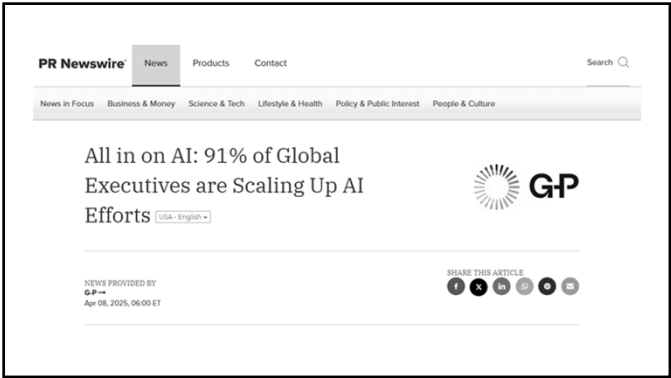
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The Increasing Capabilities of AI and Jobs

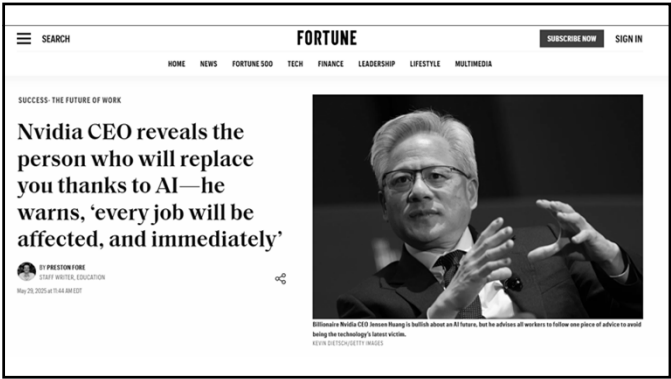
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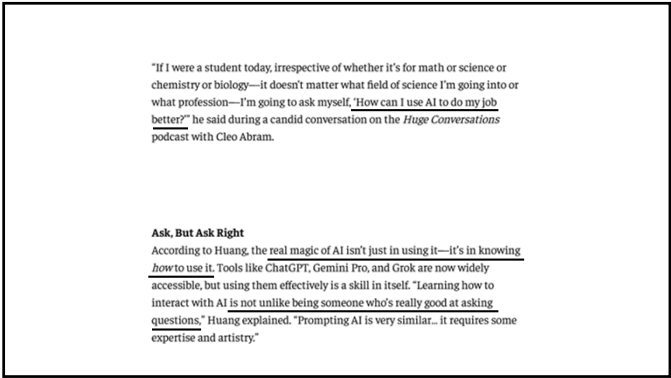
39



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41



42

The AI Revolution Is Underhyped | Eric Schmidt | TED



"I told my own staff, you're committing career suicide if you're not spending 10% of your day experimenting with the technology."
— Eric Schmidt

43

AI in the Workplace: The New Baseline Expectation

DC · Subscribe
From read · 4 days ago



Photo by Austin D'Amico on Unsplash

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Forbes

LEADERSHIP · ENTREPRENEUR

Viral Shopify CEO Manifesto Says AI Now Mandatory For All Employees

By Douglas B. Lattin · Contributor · Data, Analytics and AI Strategy Advisor · Follow Author

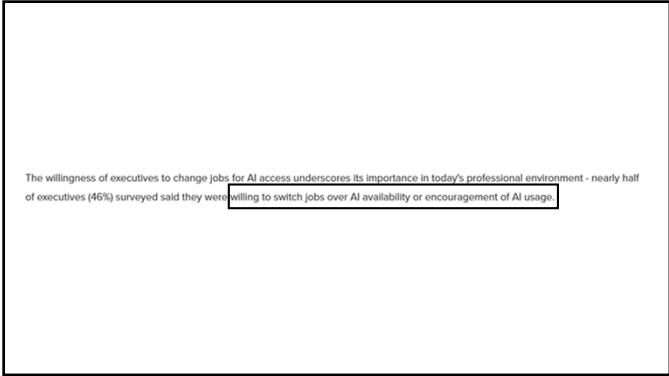
Published Apr 18, 2023, 11:43pm EDT · Updated May 10, 2023, 10:45am EDT

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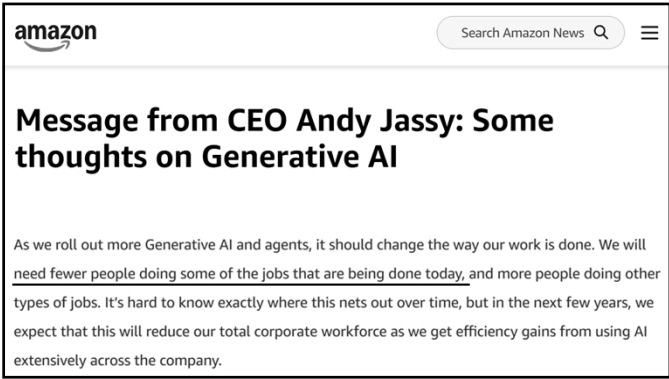


Shopify CEO Tobias Lötters speaking at a conference. Photo by David J. Phillip on Getty Images

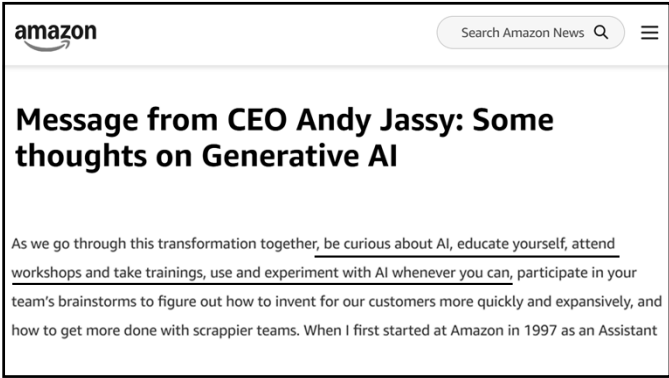
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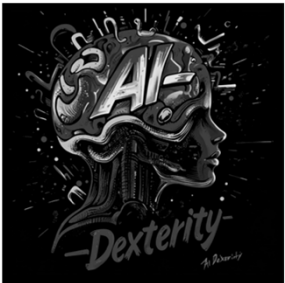


48



Japan plans to enact comprehensive AI legislation that legally obligates businesses to pursue AI adoption and requires all levels of government to develop AI strategies, marking an unprecedented state-led push to accelerate technological development.

49



Forbes

INNOVATION & ENTREPRENEUR

Building An 'AI-First' Culture: What Does That Even Mean?


By Sam McQuinn

Sam McQuinn

Published May 10, 2023

< Back


Next >



"dexterity"

— Jeetu Patel
President and Chief Product Officer of Cisco

50



Summit Vision

Andrew M. Stern
Managing Director
Chief Data Officer

Nearly 200 people gathered for the College of Health Sciences' 2025 Stern Future Healthcare Workforce Summit on artificial intelligence in healthcare and healthcare education held on STAR Campus on May 2, 2023.

STERN SUMMIT SPOTLIGHTS HEALTHCARE'S AI REVOLUTION

May 09, 2023 | Written by Amy Cherry | Photos by Kristen Troy

51

A Blockbuster moment




"We have a chance right now, like Blockbuster did, to double down on the past or boldly build the future, and AI is part of that," Weberg said. "I don't think AI will take our jobs anytime soon, but it is an enhancement, and rewinding is not the way to go."

52

Forbes

INNOVATION > ENTERPRISE TECH

The Great Skill Shift: How AI Is Transforming 70% Of Jobs By 2050

By [Bernard Marr](#) · Contribution · 

Apr 04, 2025, 09:27am EDT

Follow Author

The 70% skill shift coming by 2030 isn't a threat—it's our invitation to finally build a labor market that values human capabilities, elevates innovation, and creates opportunities for everyone willing to adapt. The broken labor market is being rebuilt, and we all have the chance to help shape it.

53



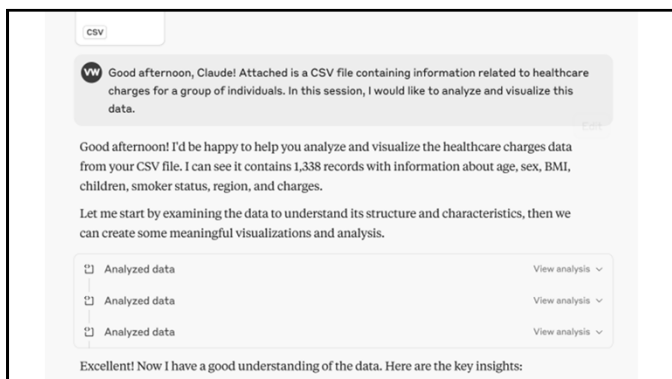
54

Use Cases

55



56



57

Dataset Overview:

- 1,338 insurance records with 7 variables
- Healthcare charges range from \$1,122 to \$63,770 (mean: \$13,270, median: \$9,382)
- Ages range from 18 to 64 years (mean: 39.2 years)
- BMI ranges from 16.0 to 53.1 (mean: 30.7)

Key Findings:

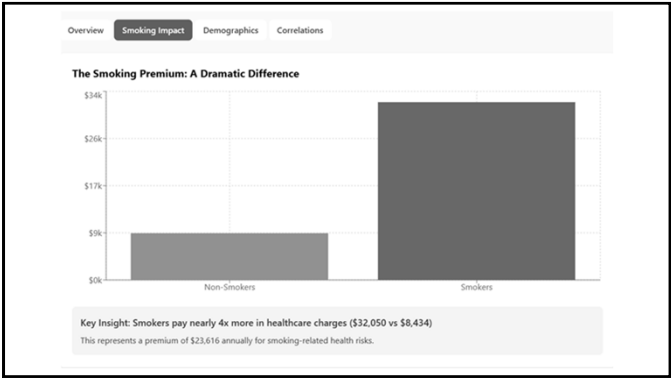
- **Smoking Impact:** Smokers have dramatically higher charges (\$32,050 vs \$8,434 for non-smokers) - nearly 4x higher!
- **Gender Balance:** Nearly equal split (662 female, 676 male)
- **Regional Distribution:** Fairly even across all four regions
- **Family Size:** Most people have 0-2 children (77% of dataset)

Now let me create some compelling visualizations to explore these patterns further:

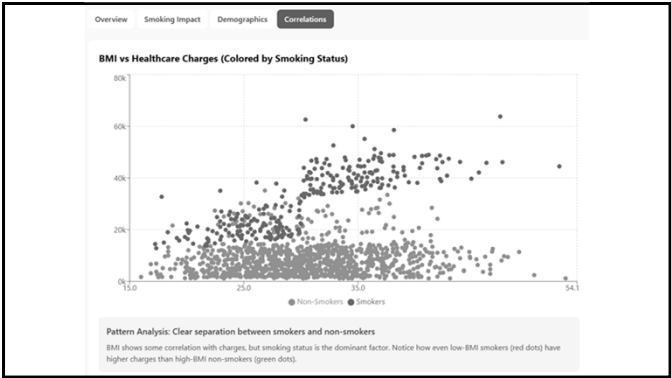
58



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60



61



62

VW Wonderful! Please create a separate visualization showing the average charges for females and males for each age. E.g., the average charge for all females that are 18 years old is...

[Edit](#)

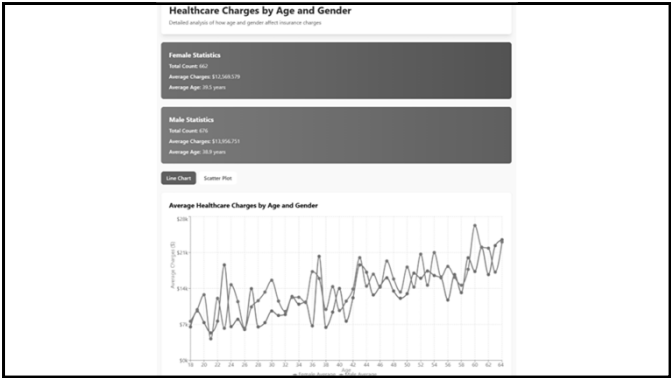
I'll create a detailed visualization showing average charges by age and gender. Let me analyze the data first to see the age distribution and then create the visualization.

[Analyzed data](#) [View analysis](#)

Great! Now I'll create a comprehensive visualization showing average charges by age and gender:

Healthcare Charges by Age and Gender
Interactive artifact

63



64

vw Looking at the Healthcare Charges by Age and Gender visualization, it appears that the men in this dataset are generally paying more than women across each age group. There are only a few exceptions to this. Am I seeing this correctly?

You're making an excellent observation! Let me verify this pattern by analyzing the data more systematically:

Analyzed data

View analysis ▾

You are **absolutely correct!** Your observation is spot-on. Here's what the data shows:

Your Analysis is Accurate:

Males pay more than females at 68% of ages (32 out of 47 age groups where both genders are represented)

65

Medical Conference Implications:

This gender disparity in healthcare costs is a really interesting finding that could spark discussion about:

- Different healthcare utilization patterns between genders
- Potential differences in risk factors or health conditions
- Whether this reflects actual health differences or healthcare system factors

You've identified a key pattern that would definitely be worth highlighting in your medical conference presentation! It's a great example of how data visualization can reveal unexpected demographic trends in healthcare costs.

66

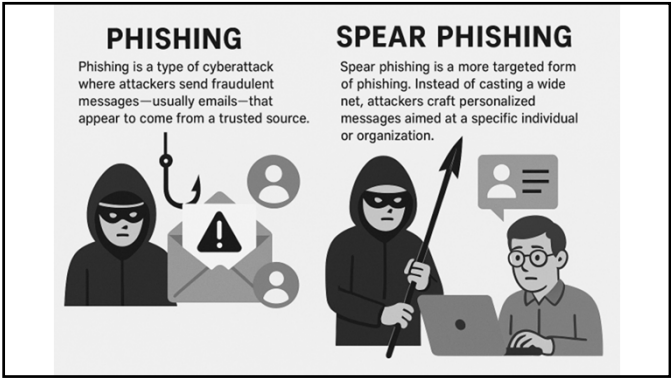


Gadget – a virtual device whose functionality includes LLM technology

67



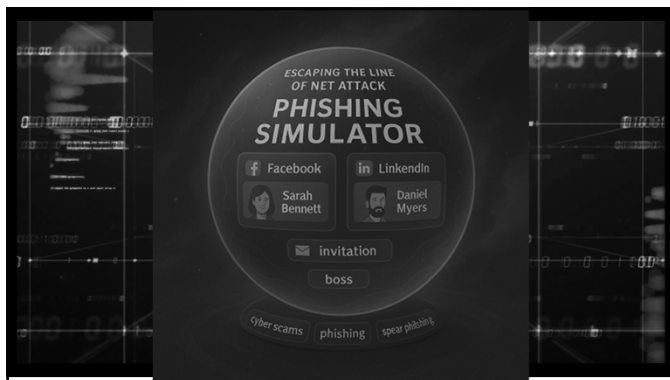
68



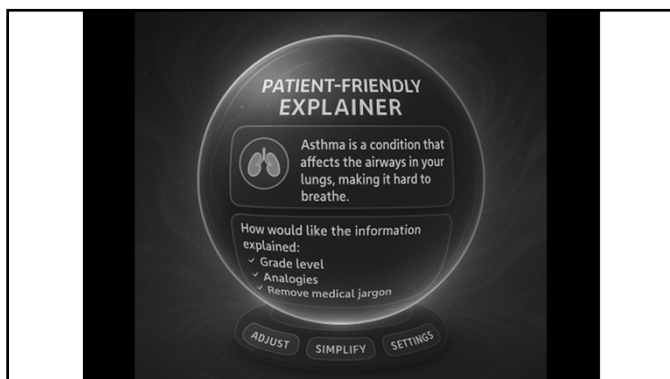
69

“For the first time in over 2 years of testing,” the researchers warn, its AI agents “created more effective simulated phishing campaigns against millions of global users than our elite human red teams could.” **AI beats human — and it isn't even close.** This means pointing AI at a target, and then letting it loose on the target's social media, LinkedIn, public profiles, to fuel a highly personalized attack with no errors. And this can be done at unlimited scale, against anyone and everyone, continually and endlessly.

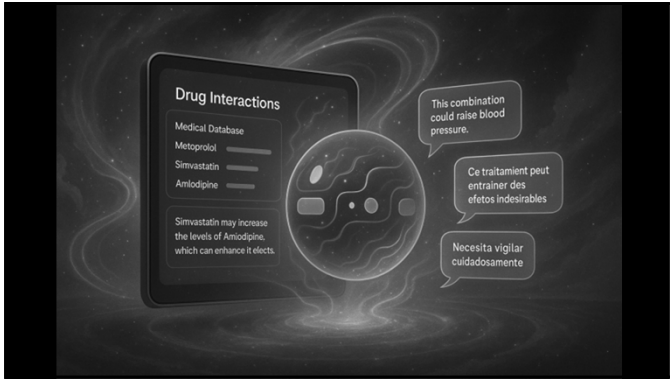
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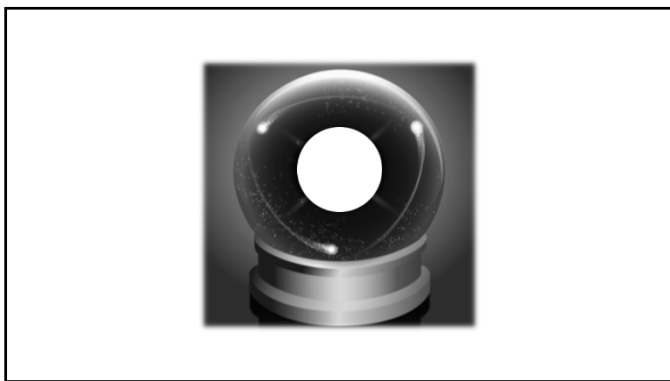
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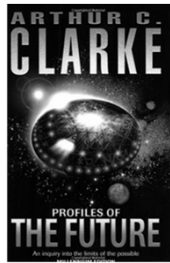
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Hazards of Prophecy: The Failure of Imagination

76

Circa 1946

Inventors of the ENIAC and UNIVAC Computers



J. Presper Eckert

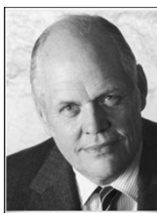


John Mauchly

...by the year 2000, there would be at most only a few dozen electronic digital computers in the world.

77

CIRCA 1974



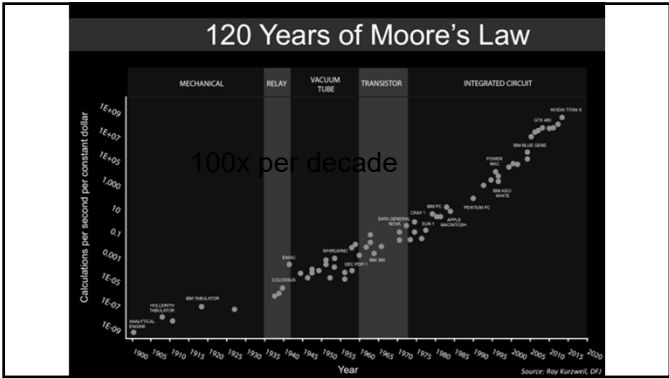
There is no reason for any individual
to have a computer in their home.

— Ken Olsen —


AZ QUOTES

President of DEC

78



79




Cray I (1975-1982)

Power Consumption = 10 homes

\$55 million (2023 dollars)


$\times 1000 \approx$



iPhone 5 (2012)

80

strong scaling hypothesis



81

PC GAMER

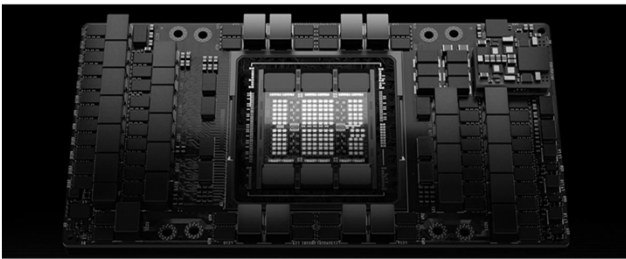
one million times more powerful than ChatGPT within 10 years



Nvidia's GPUs had boosted AI processing performance by a factor of no less than one million in the last 10 years.

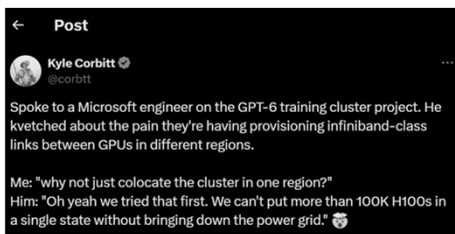
In the next 10 years Nvidia is going to do it again!
— Jensen Huang CEO Nvidia

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Hopper H100
80 Billion Transistors

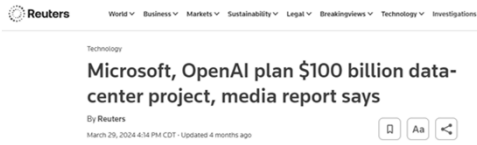
83



$$100K * \$30K = \$3 \text{ Billion}$$

84

Stargate 2028



85

FEATURE

Stargate AI explained: What's in the \$500 billion project

Co-led by OpenAI and Softbank, Stargate AI aims to invest \$500 billion in new AI data centers and infrastructure to help U.S.-based AI innovation, but it has raised concerns.

By Madeline Streets, Senior content manager

Published: 20 Feb 2025



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TECH A.I.

Elon Musk selects Memphis for 'world's largest' supercomputer site

BY CHRIS BURGESS
March 28, 2024 at 12:11 PM CDT



AI? Founder Elon Musk.
(AP Images - Getty Images)

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Elon Musk's liquid-cooled 'Gigafactory' AI data centers get a plug from Supermicro CEO — Tesla and xAI's new supercomputers will have 350,000 Nvidia GPUs, both will be online within months

News By Dallin Grimm published July 6, 2024

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NEXT GEN INVESTING

Nvidia is up 163% this year and worth nearly \$1 trillion—here's what to know before investing

Published Fri, Jun 9 2023 11:24 AM EDT



Ryan Emery

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FORBES > BUSINESS

BREAKING

Nvidia Tops \$2 Trillion Market Value For First Time Ever

Derek Saul, Forbes Staff

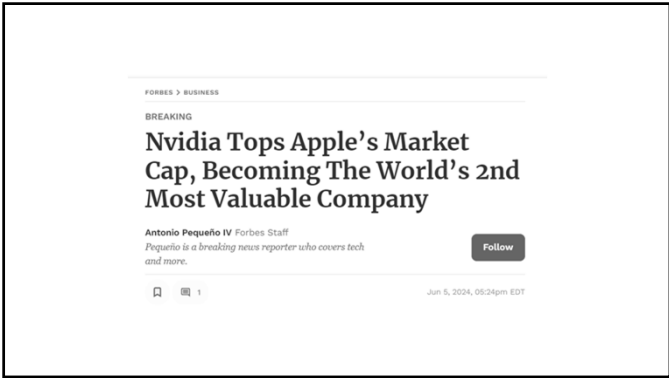
I cover breaking news with a focus on markets and crypto business.

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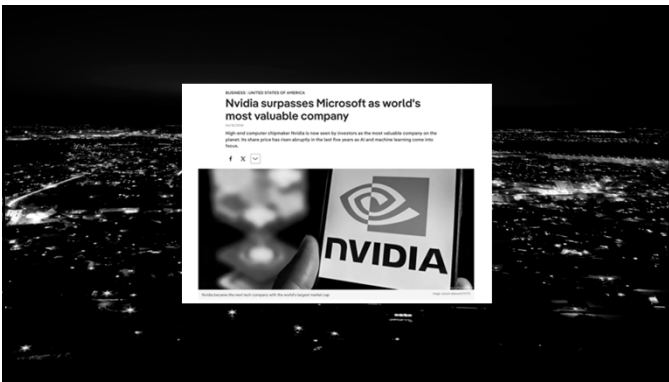


Fri 23, 2024, 09:34am EDT

90



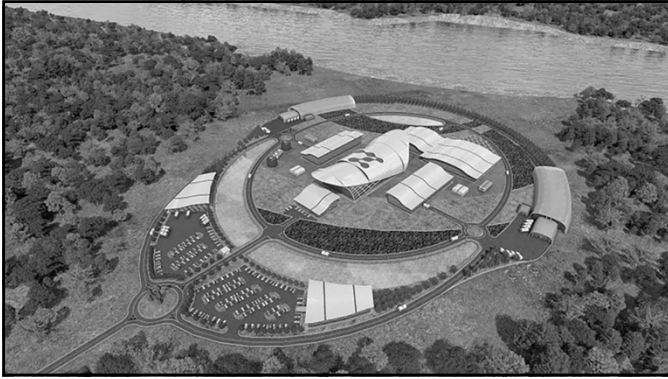
91



92




93




94


30 Moore Years = 100 x 100 x 100




J. Presper Eckert



john mauchly



There is no reason for any individual to have a computer in their home.
— Bill Gates —
© 1995



iPhone 5 (2012)

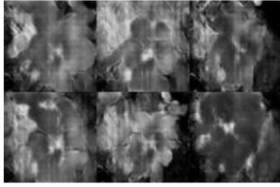
30 Moore Years = 10 Nvidia Years

95

From an evolutionary standpoint, the human brain is ill-equipped to comprehend large numbers and exponential growth

The problem is that the frontiers of AI are intimately associated with both of these

96



2016

Generative Adversarial Text to Image Synthesis
Scott Reed, Zeynep Akata, Xinchun Yan, Lajanugen Logeswaran, Bernt
Schiele, Honglak Lee

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2023

prompt: A Purple Anemone Flower

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HOME / TECHNOLOGY
AI-Generated Art Personifies
Countries as Different Women
Across the Globe

What If Countries Were People?

Imagined by Midjourney AI

 HungryMinded · Follow
Published in Seeds For The Future · 14 min read · Jul 2

2023

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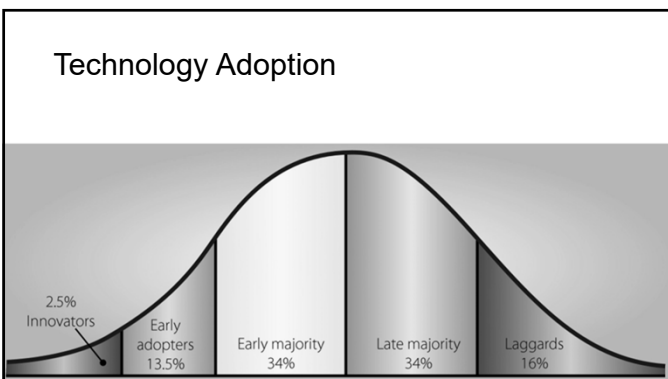
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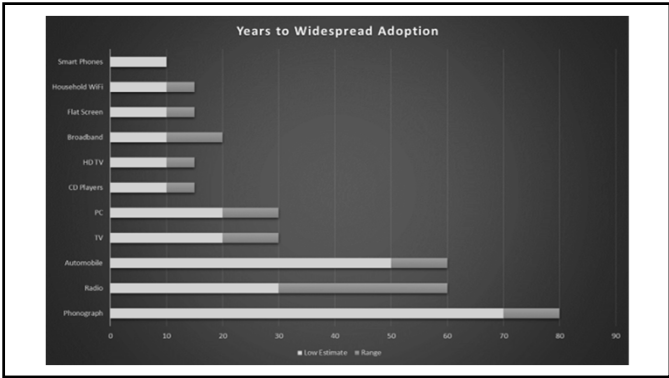
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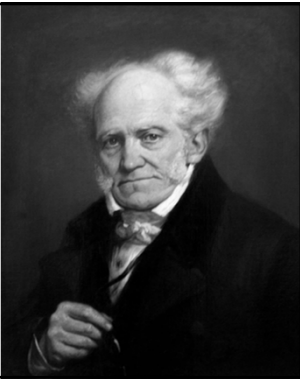


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All [Transformative] truth passes through three stages.

1. It is ridiculed.
2. It is violently opposed.
3. It is accepted as being self-evident.

— Arthur Schopenhauer



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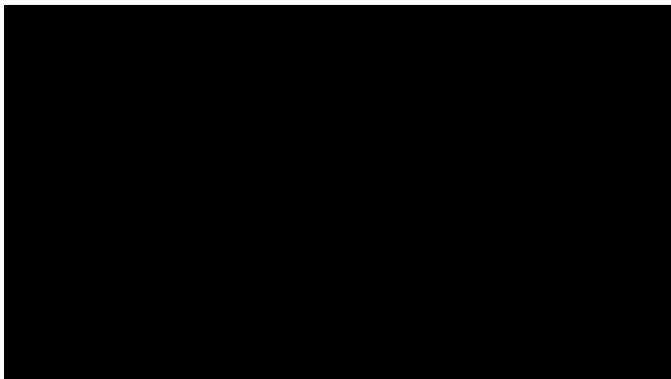
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