



institut d'intelligence  
artificielle appliquée

i2a2.academy





Fonte: <https://www.utu.fi/en/news/news/a-brief-overview-of-kievis-approach-to-using-ai>

# Agentes Autônomos com Redes Generativas

Interagindo com LLMs

Promovido

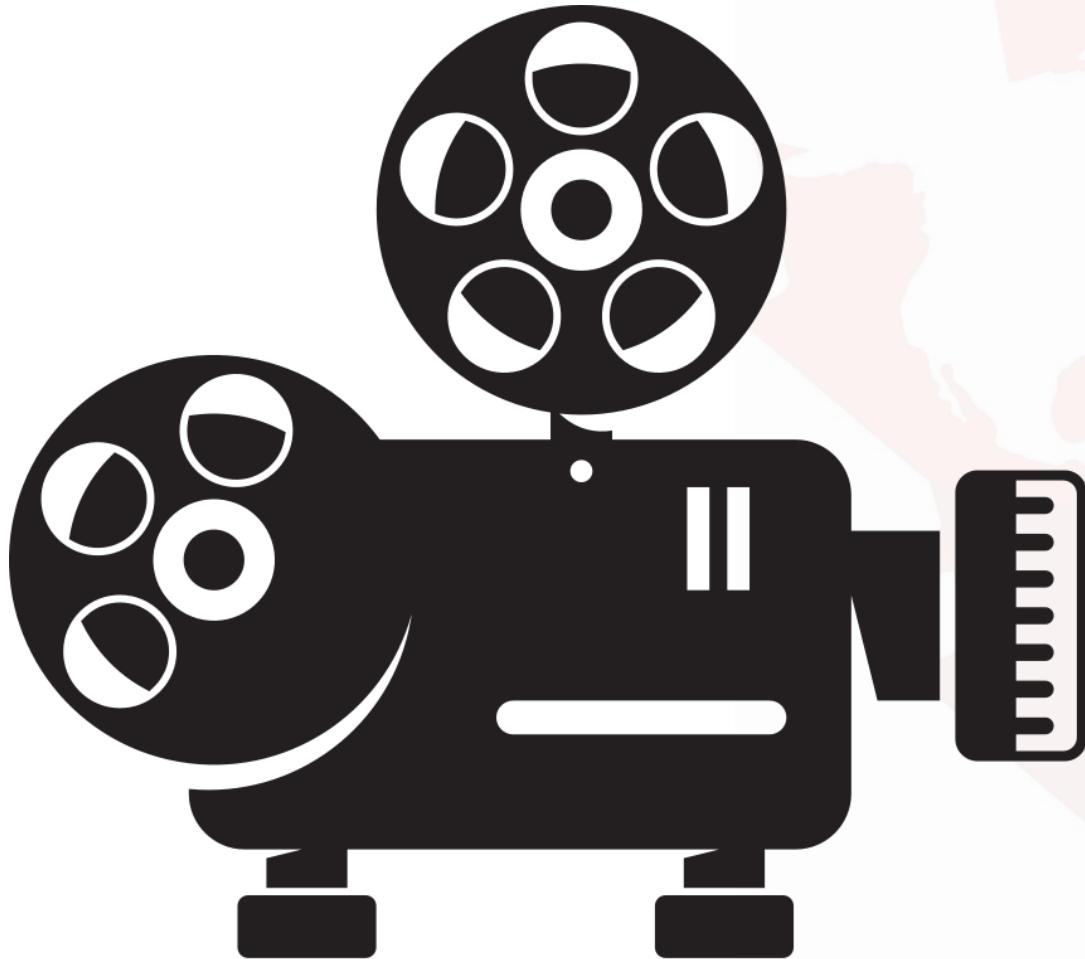
# Orientações Gerais



# Orientações Gerais

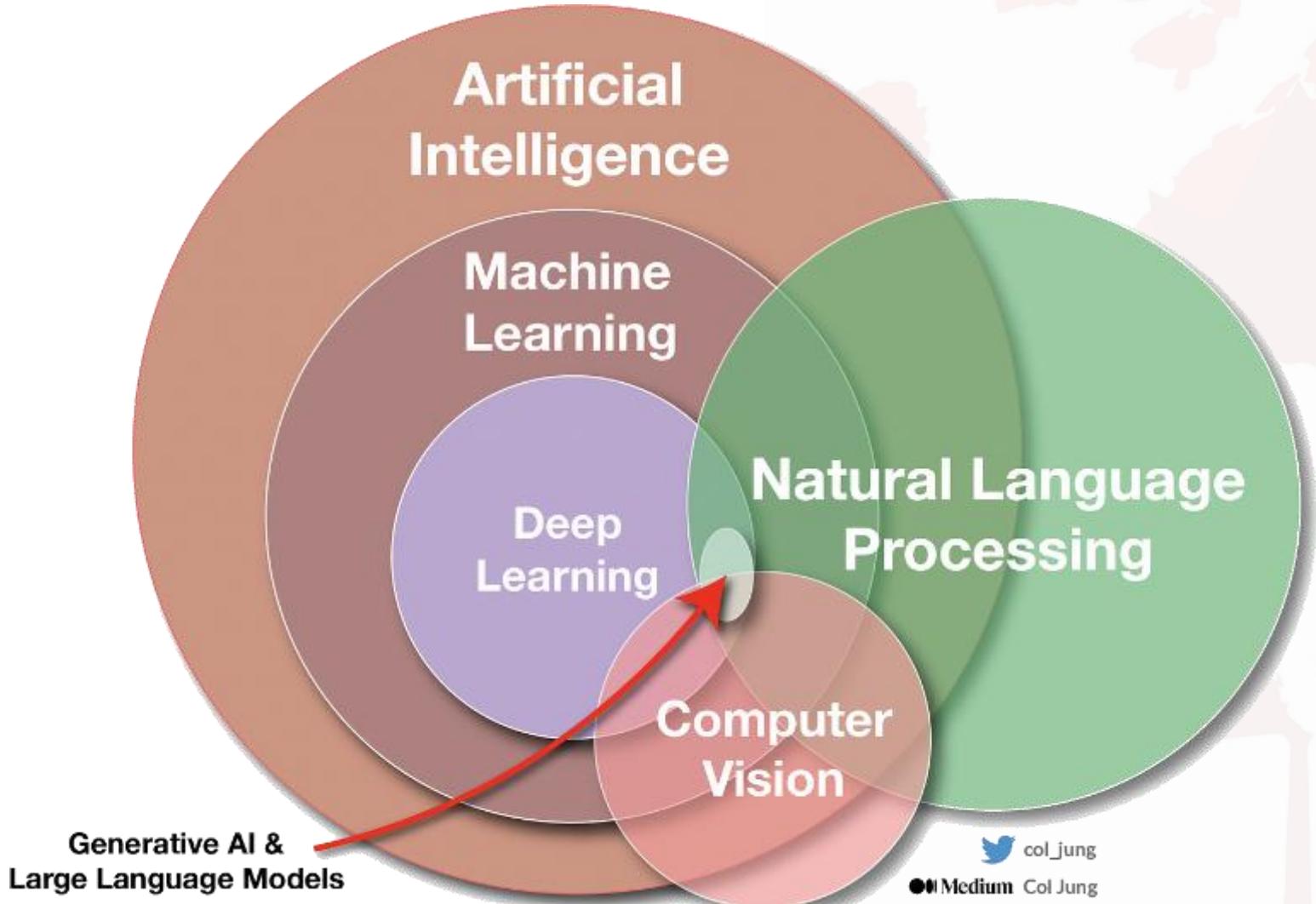
- Usem o Site do Curso. Todas as informações estão disponíveis lá.  
<https://sites.google.com/i2a2.academy/agentes-autonomos-com-ia-gen?usp=sharing>
- Leiam os documentos com as respostas das dúvidas. Há muita informação importante nas respostas.
- A resposta do questionário da aula 2 está disponível no site e no drive compartilhado.
- Caso surjam novas dúvidas, utilize o nosso já conhecido formulário:  
<https://forms.office.com/r/y7yG7vHKX8>

# Recapitulando...



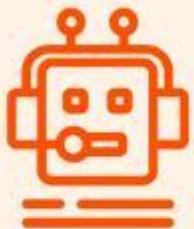
Designed and released in public domain by FreeSVG.org

# O que é uma IA?



# O que é IA?

## What is AI? ANI vs. AGI vs. ASI



### Artificial narrow intelligence (ANI)

Designed to perform specific tasks



### Artificial general intelligence (AGI)

Can behave in a human-like way across all tasks

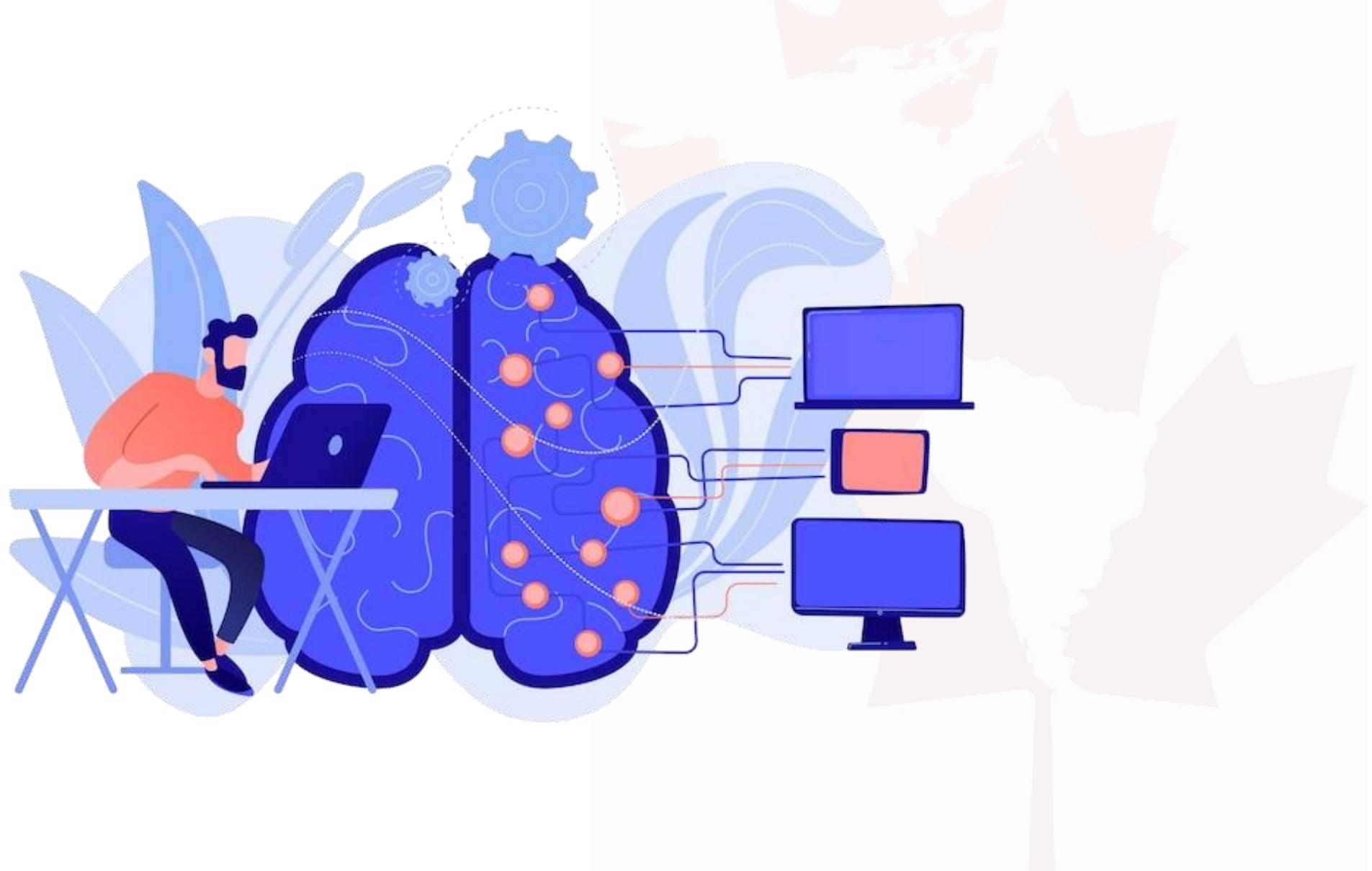


### Artificial super intelligence (ASI)

Smarter than humans—the stuff of sci-fi

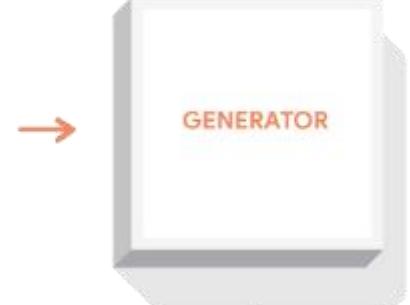
**zapier**

# Redes Generativas



# Redes Generativas

**GENERATOR**  
"The Artist"  
A neural network trying to  
create pictures of cats that  
look real.



**DISCRIMINATOR**  
"The Art Critic"  
A neural network examining  
cat pictures to determine if  
they're real or fake.



Thousands of real-world  
images labeled "CAT"

First attempt



GENERATOR



DISCRIMINATOR



Many attempts  
later



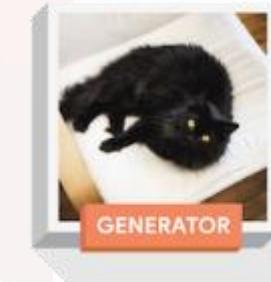
GENERATOR



DISCRIMINATOR



Even more  
attempts later



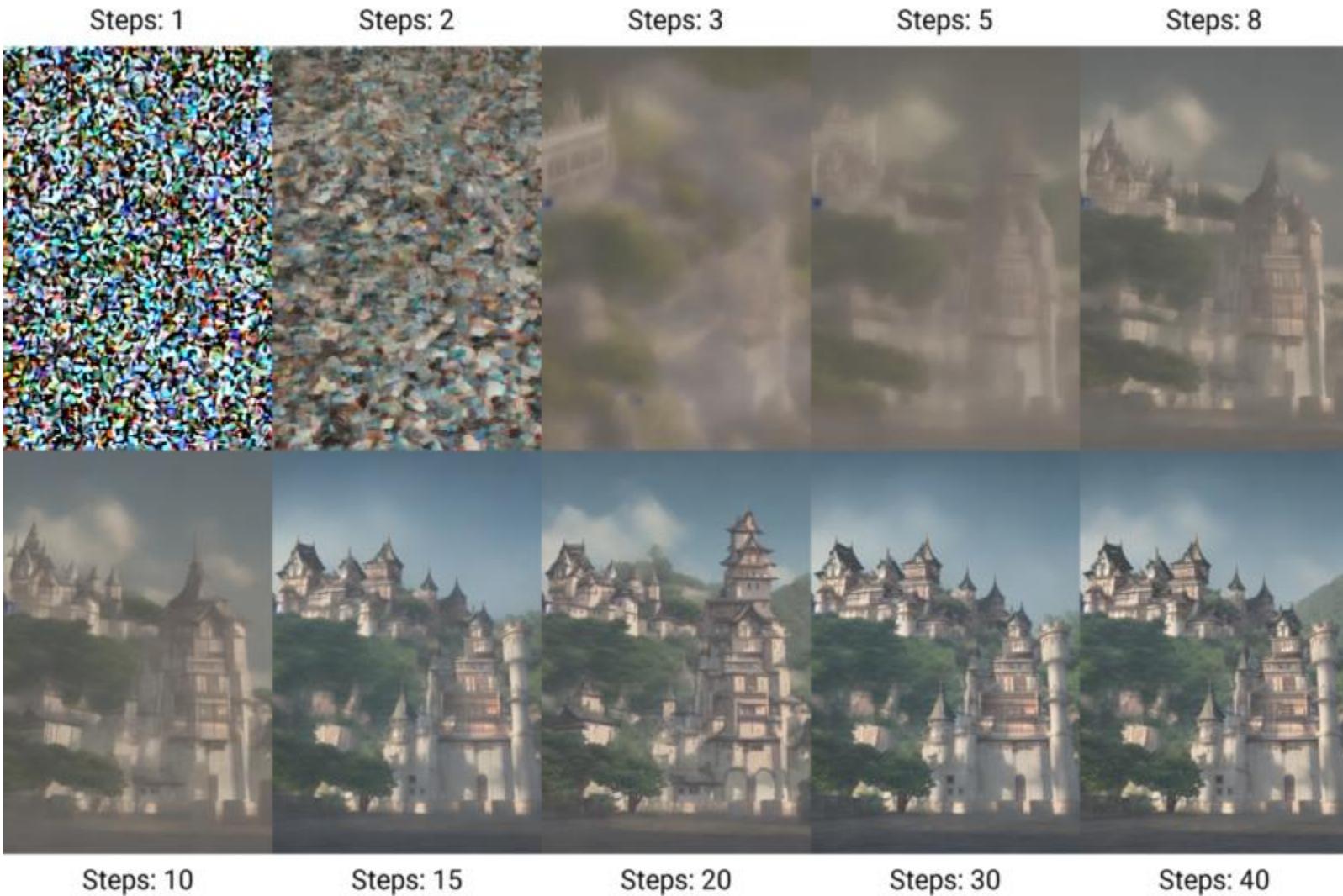
GENERATOR



DISCRIMINATOR



# Diffusion Models



# Large Language Models (Foundation Models)



# FRONTIER AI MODELS + HIGHLIGHTS (MAR/2025)



poe.com



**Microsoft phi**  
**Google Gemma**  
**IBM Granite**  
**Mistral**

+ hundreds more...

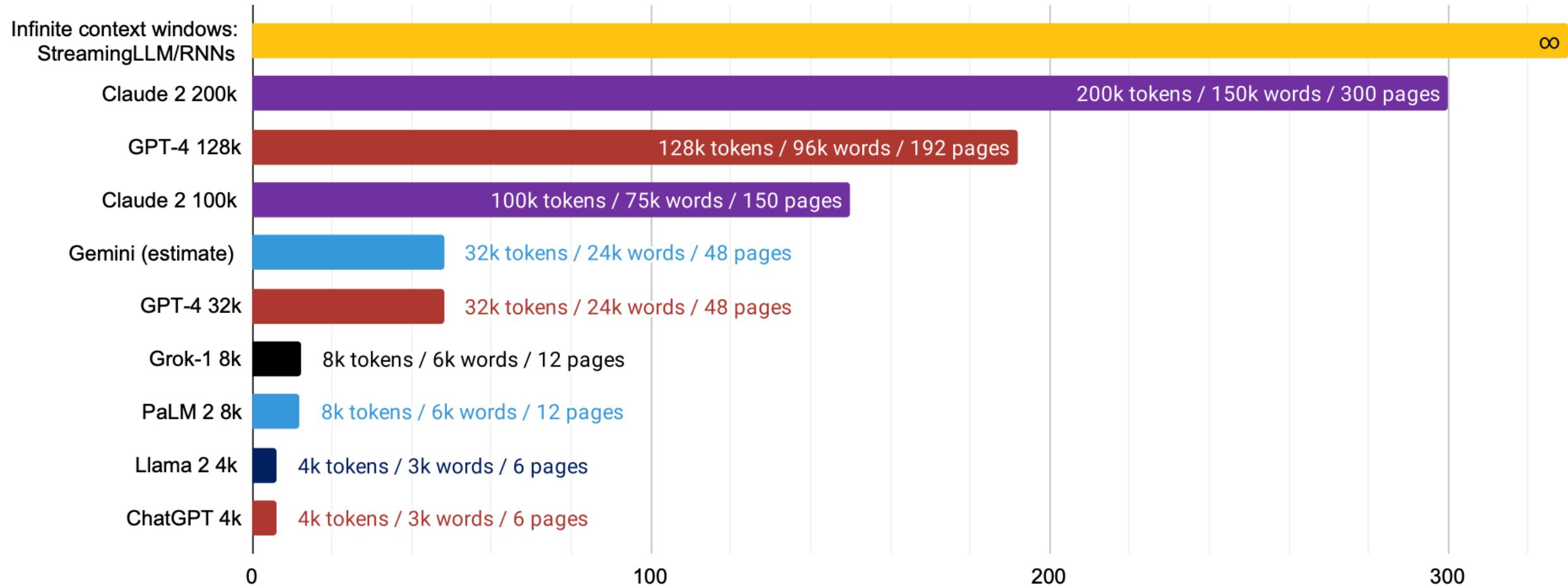


**DeepSeek R**  
**Cohere Command-R**  
**AI21 Jamba**  
**Alibaba Qwen/QwQ**

+ hundreds more...

Some images by Flaticon.com. Selected highlights only. All 500+ models: <https://lifearchitect.ai/models-table/> Alan D. Thompson, 2021-2025.

# 2023 CONTEXT WINDOWS (MAX IN/OUT LENGTH)



Using rounded figures of 1 token = 0.75 words (e.g. 32,000 tokens ≈ 24,000 words), 500 words ≈ 1 page. Alan D. Thompson. November 2023. <https://lifearchitect.ai/models/>



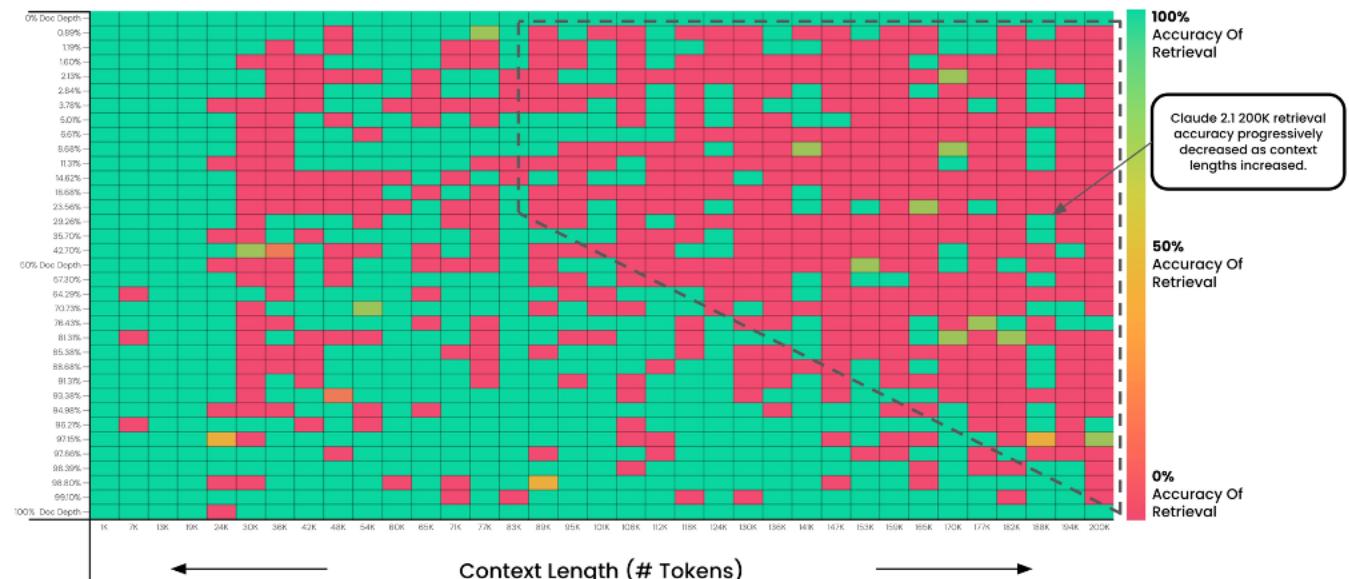
# CONTEXT RECALL: NEEDLE IN THE HAYSTACK: 2023-2024

Nov/2023

Claude 2.1 (200K context)

27%

<https://x.com/GregKamradt/status/1727018183608193393>

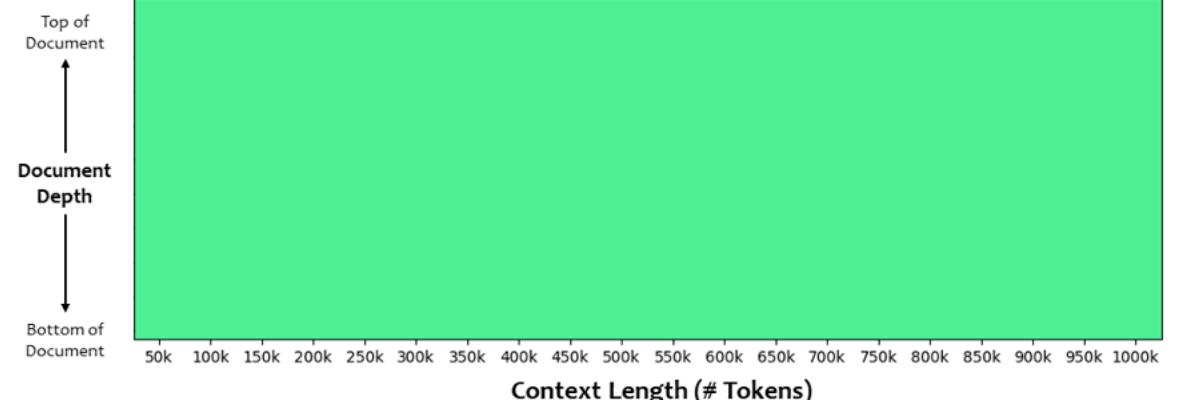


Nov/2024

Qwen2.5-Turbo (1M context)

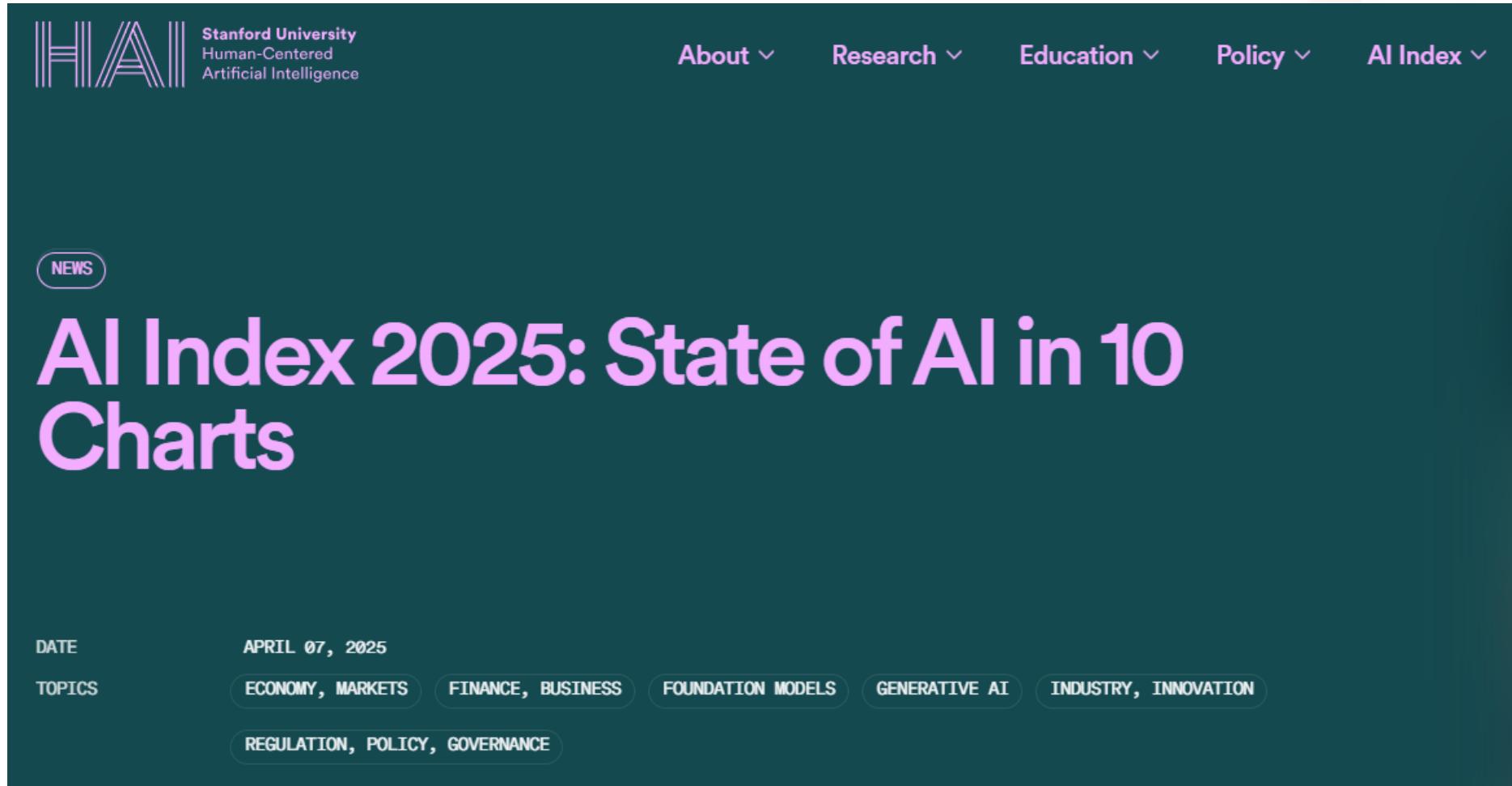
100%

<https://qwenlm.github.io/blog/qwen2.5-turbo/>



LifeArchitect.ai/models

# Stanford AI Index 2025



The image shows a news article from the Stanford University Human-Centered Artificial Intelligence (HAI) website. The title is "AI Index 2025: State of AI in 10 Charts". The article is dated April 07, 2025, and covers topics such as Economy, Markets, Finance, Business, Foundation Models, Generative AI, Industry, Innovation, Regulation, Policy, and Governance.

**AI Index 2025: State of AI in 10 Charts**

DATE: APRIL 07, 2025

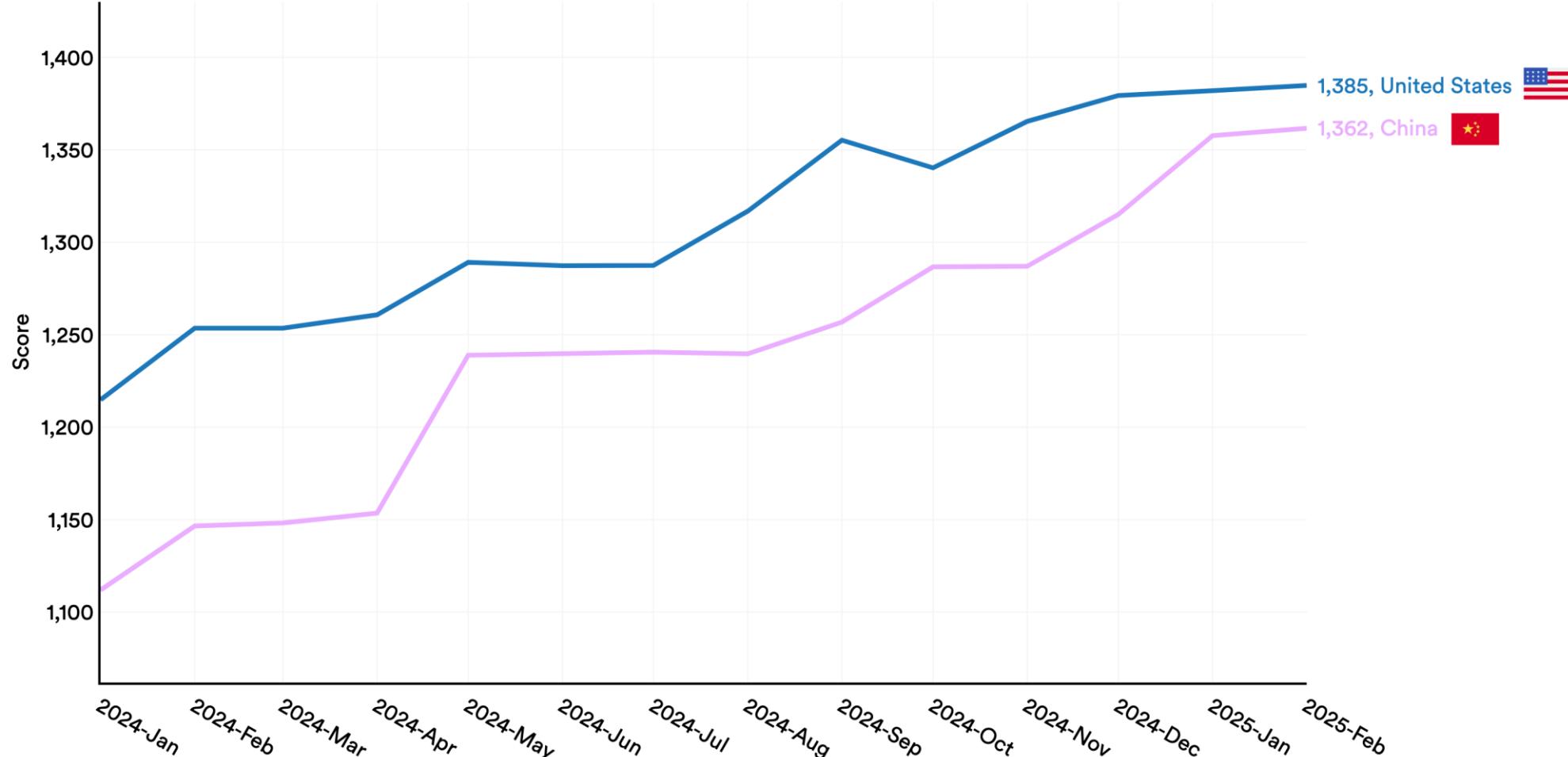
TOPICS: ECONOMY, MARKETS, FINANCE, BUSINESS, FOUNDATION MODELS, GENERATIVE AI, INDUSTRY, INNOVATION, REGULATION, POLICY, GOVERNANCE

Fonte: <https://hai.stanford.edu/news/ai-index-2025-state-of-ai-in-10-charts>

# A briga entre os grandes acirrou

## Performance of top United States vs. Chinese models on LMSYS Chatbot Arena

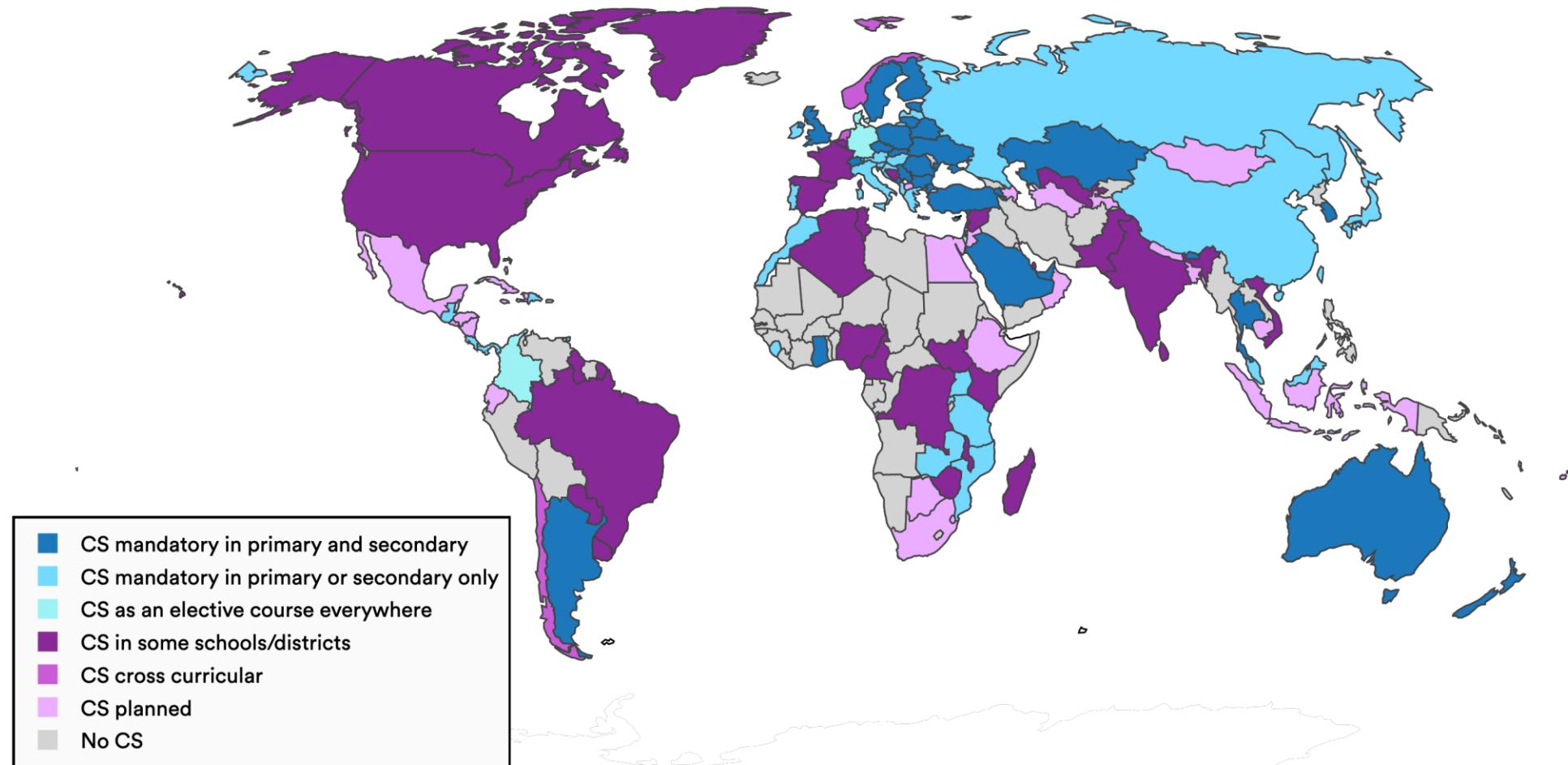
Source: LMSYS, 2025 | Chart: 2025 AI Index report



# Educação em Computação

## Availability of CS education by country, 2024

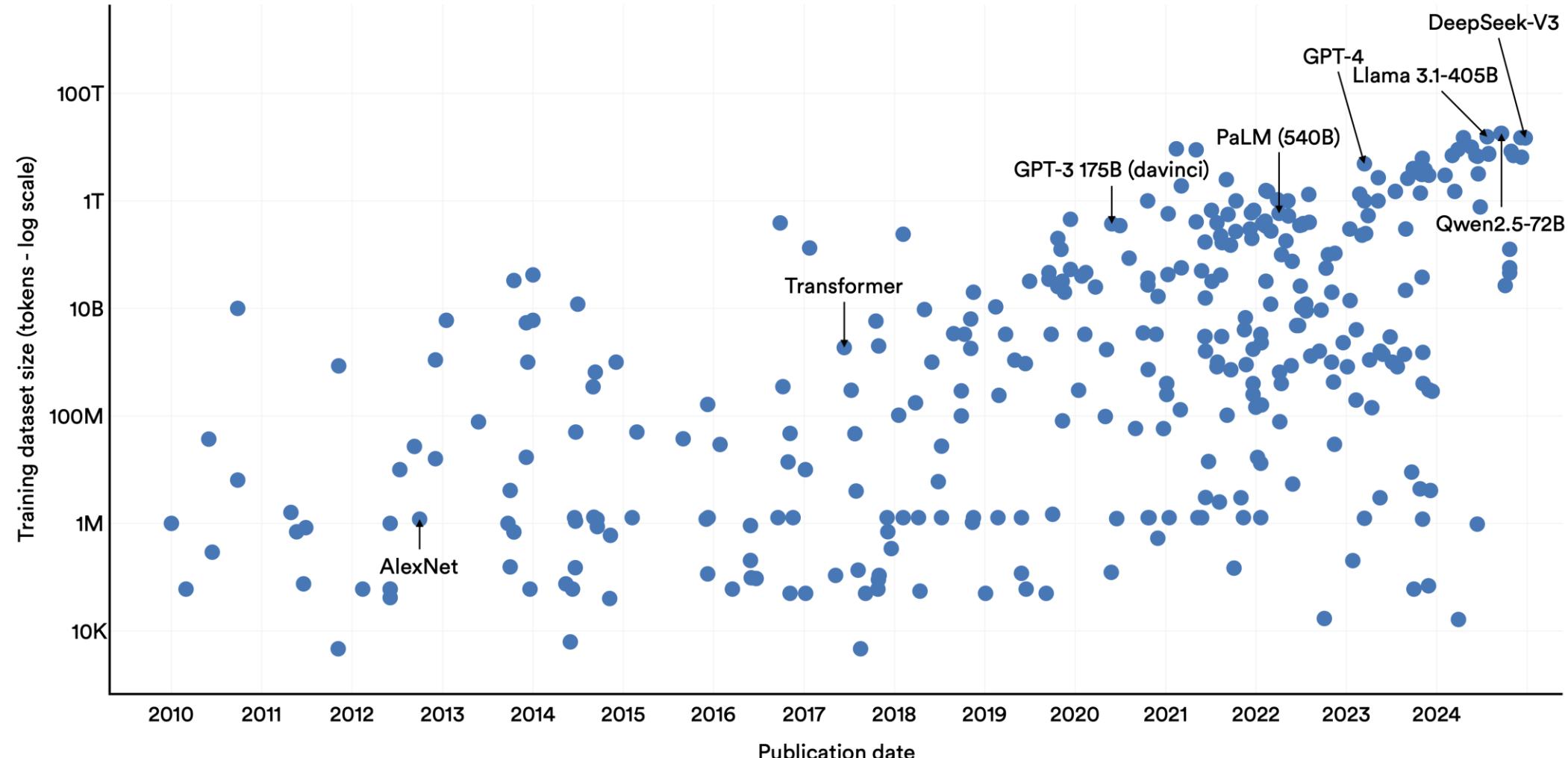
Source: Raspberry Pi Computing Education Research Centre, 2024 | Chart: 2025 AI Index report



# O número de parâmetros cresceu

Training dataset size of notable AI models, 2010–24

Source: Epoch AI, 2025 | Chart: 2025 AI Index report



# Passou o humano

## Select AI Index technical performance benchmarks vs. human performance

Source: AI Index, 2025 | Chart: 2025 AI Index report

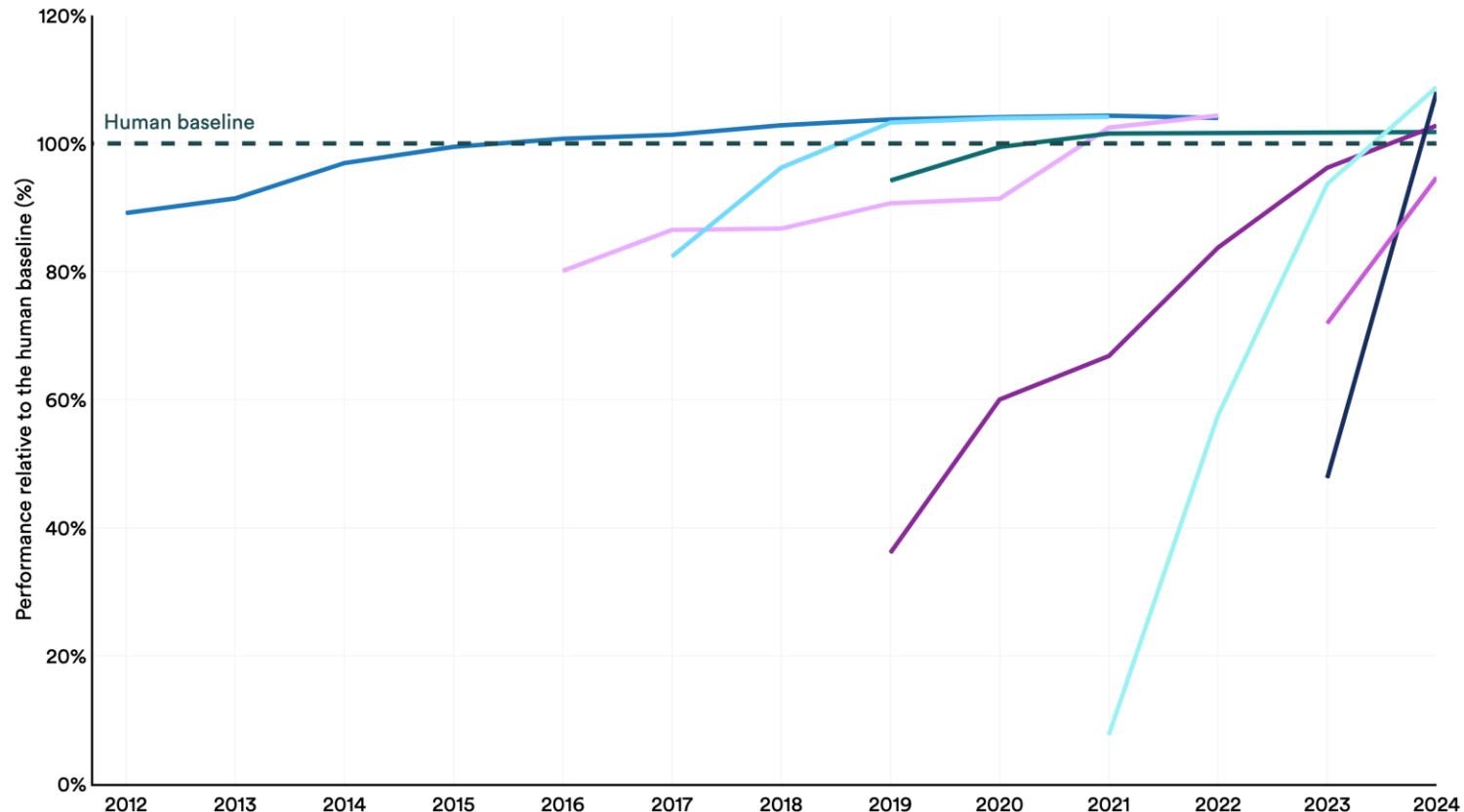
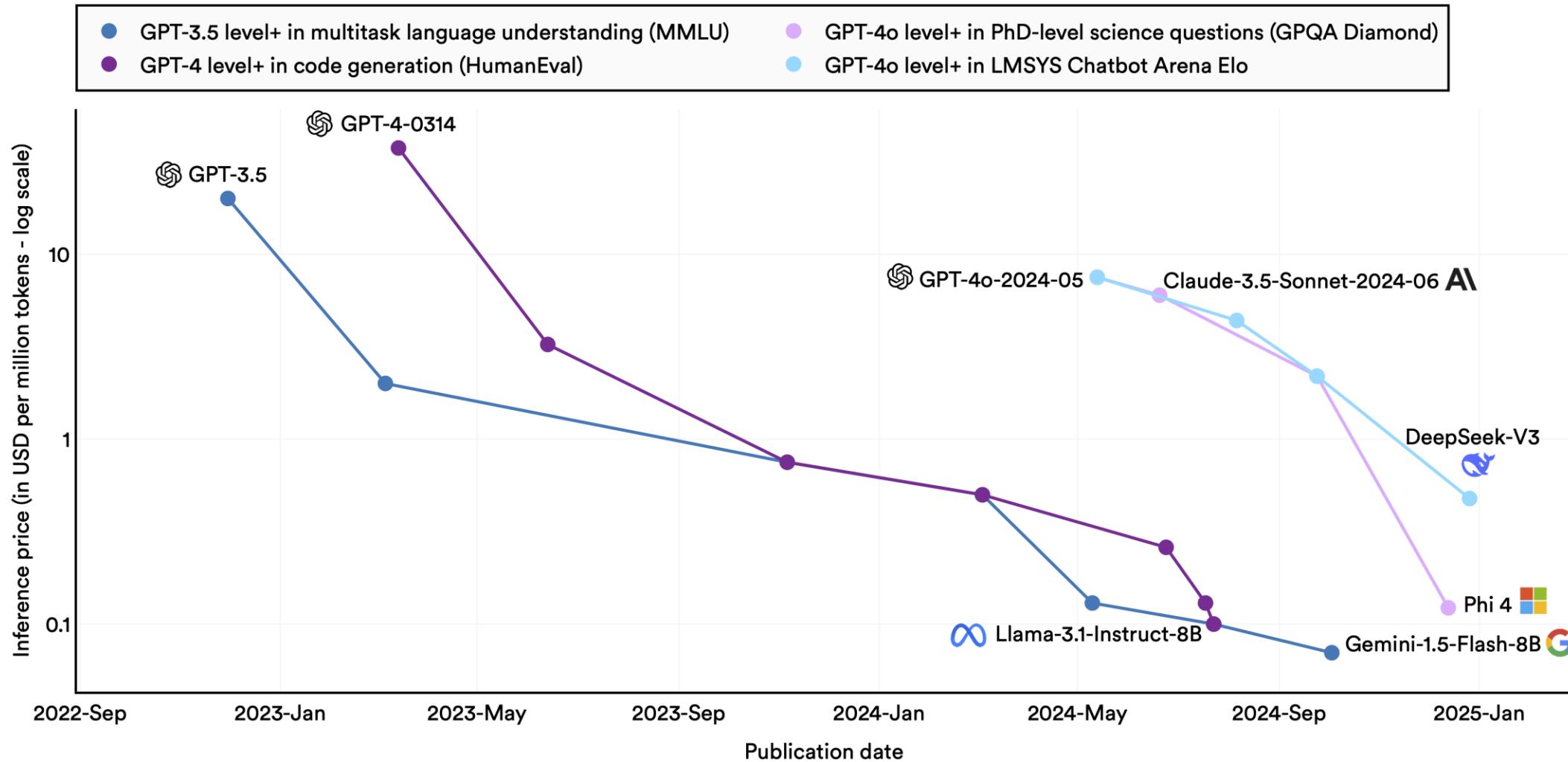


Image classification (ImageNet Top-5)	Visual reasoning (VQA)
Medium-level reading comprehension (SQuAD 2.0)	English language understanding (SuperGLUE)
Multitask language understanding (MMLU)	Competition-level mathematics (MATH)
PhD-level science questions (GPQA Diamond)	Multimodal understanding and reasoning (MMMU)

# O preço da inferência caiu

## Inference price across select benchmarks, 2022–24

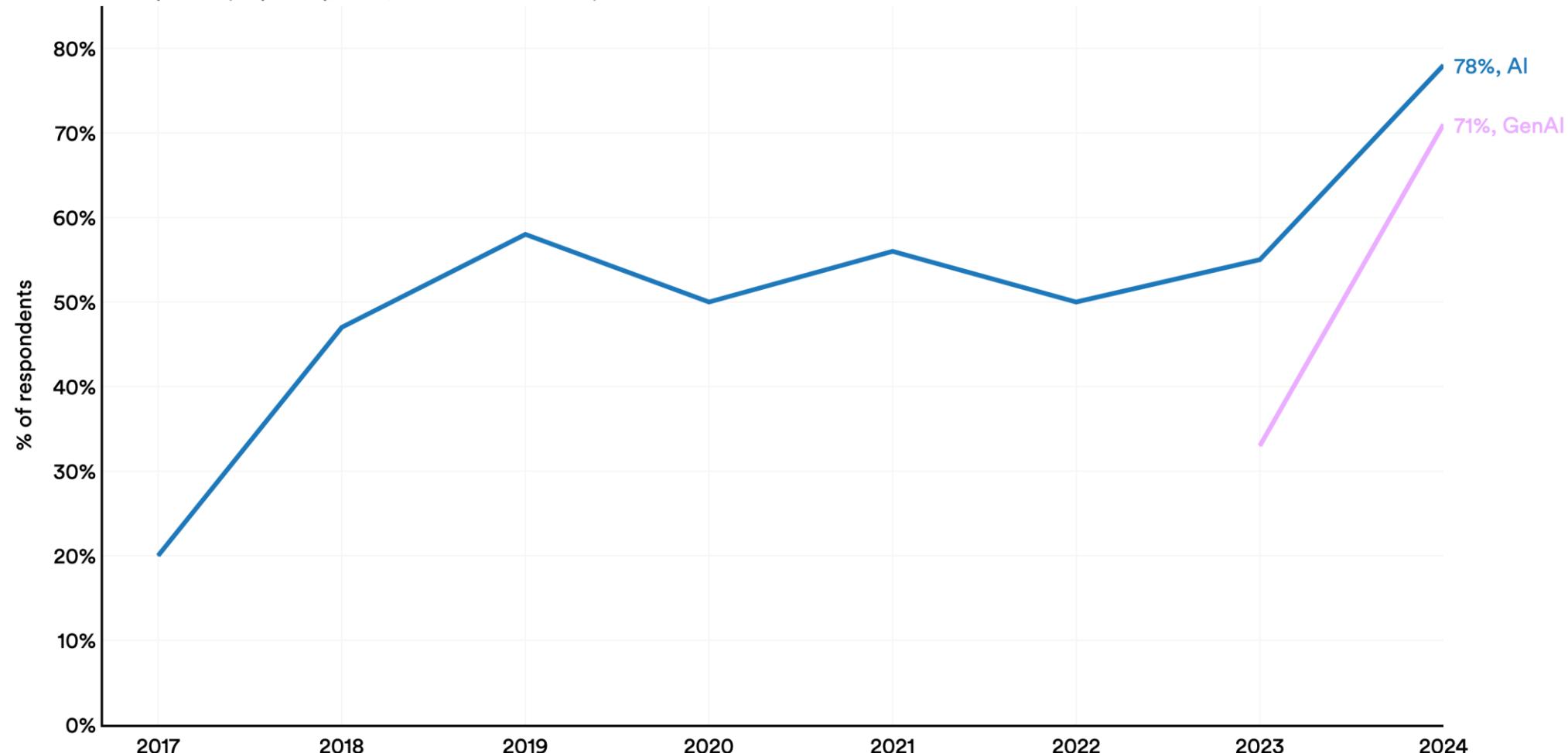
Source: Epoch AI, 2025; Artificial Analysis, 2025 | Chart: 2025 AI Index report



# As empresas estão usando

## Share of respondents who say their organization uses AI in at least one function, 2017–24

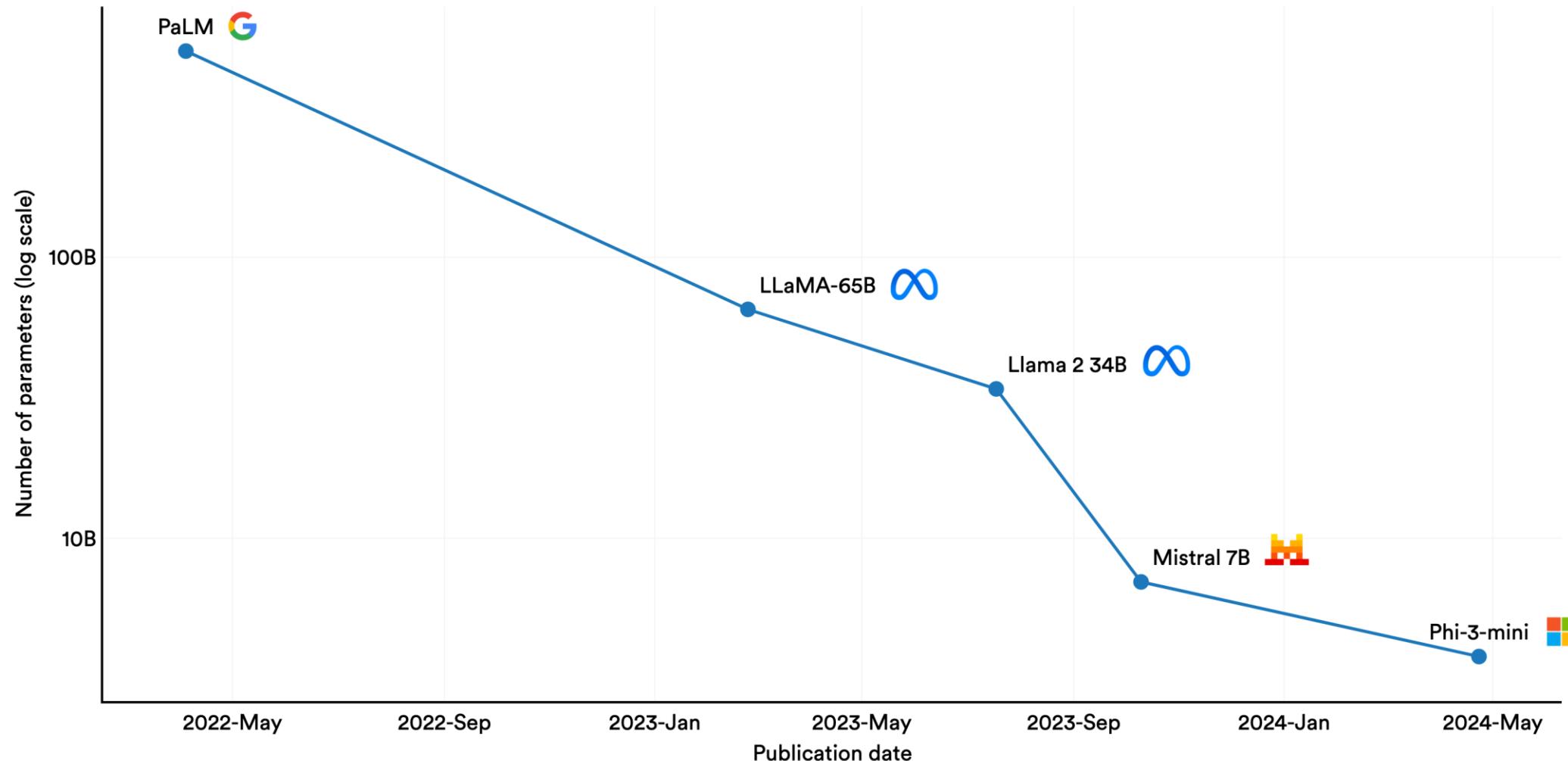
Source: McKinsey & Company Survey, 2024 | Chart: 2025 AI Index report

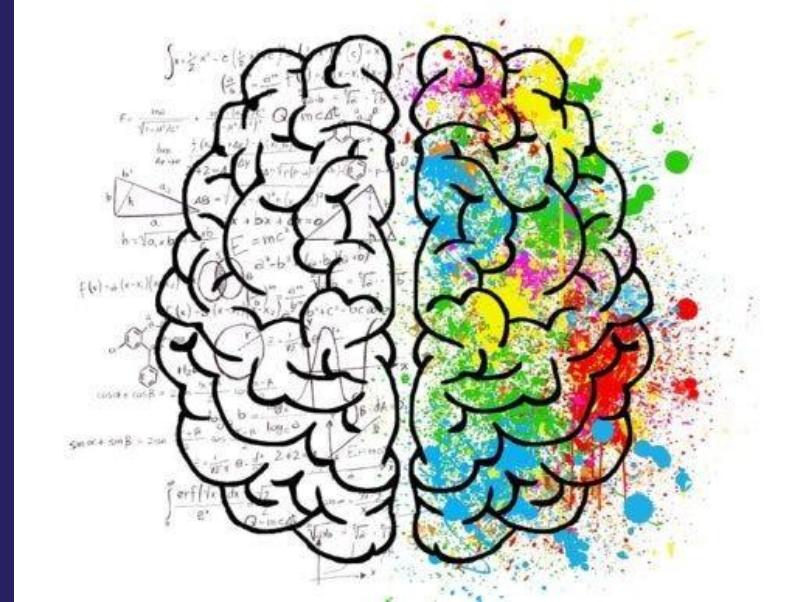


# Menores modelos

## Smallest AI models scoring above 60% on MMLU, 2022–24

Source: Abdin et al., 2024 | Chart: 2025 AI Index report





# As LLMs

Quem são, onde vivem, do que se alimentam?

# O ChatGPT

The screenshot shows the homepage of chatgpt.com. At the top, there is a navigation bar with icons for back, forward, refresh, and a search bar containing "chatgpt.com". Below the navigation bar is a sidebar with three items: "ChatGPT" (selected), "Explorar GPTs", and "Galeria". The main content area features a large question "Como posso ajudar?" and a text input field "Pergunte alguma coisa". Below the input field are several buttons: a plus sign button, a "Buscar" button with a magnifying glass icon, a "Refletir" button with a lightbulb icon, a "Criar imagem" button with a camera icon, and a three-dot ellipsis button. In the bottom right corner, there are two small circular icons: one with a microphone and another with a speaker.

chatgpt.com

ChatGPT

Explorar GPTs

Galeria

Como posso ajudar?

Pergunte alguma coisa

+

Buscar

Refletir

Criar imagem

...

Microphone icon

Speaker icon

# Open AI

OpenAI Platform

Docs API reference

Search

CTRL K

## GET STARTED

Overview

Quickstart

## Models

Pricing

Libraries

## CORE CONCEPTS

Text and prompting

Images and vision

Audio and speech

Structured Outputs

Function calling

Conversation state

Streaming

Cookbook

Forum

## Models

Compare models

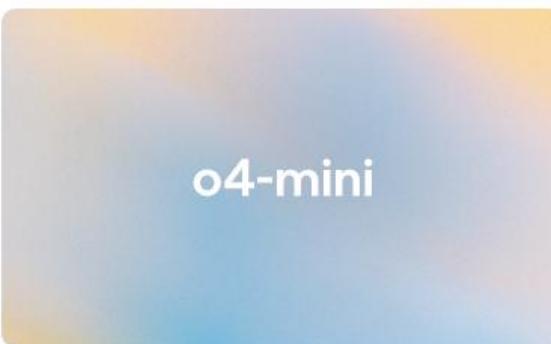
Explore all available models and compare their capabilities.

### Featured models



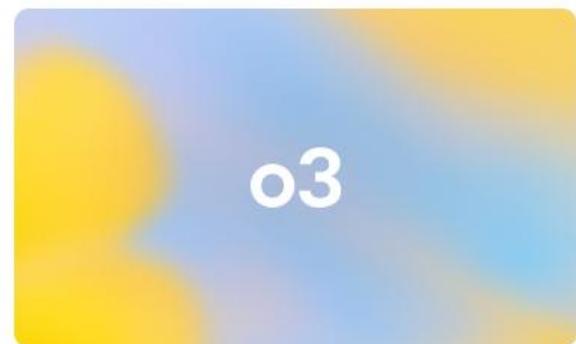
#### GPT-4.1

Flagship GPT model for complex tasks



#### o4-mini

Faster, more affordable reasoning model



#### o3

Our most powerful reasoning model

Reasoning models o-series models that excel at complex, multi-step tasks

# Google Gemini

The screenshot shows the Google Gemini interface on a web browser. The title bar says "Gemini" and the URL is "gemini.google.com/app?hl=pt-BR". On the left sidebar, there's a "Nova conversa" button, a "Gems" section with "Geracao de Ideias", "Consultoria de carreira", and "Parceiro de Programacao", and a "Mais" section with "Gerenciador de Gem", "Ajuda", "Atividade", and "Configurações". The main content area is titled "Gemini 2.0 Flash". It lists four options: "2.0 Flash" (Facilite sua rotina), "2.5 Flash (experimental)" (Usa raciocínio avançado), "2.5 Pro (experimental)" (Indicado para tarefas de alta complexidade), and "Deep Research with 2.5 Pro" (Receba relatórios detalhados). Each option has a "Novo" button. Below this is a search bar with placeholder text "Insira um comando para o Gemini" and buttons for "Deep Research" and "Canvas". A microphone icon is also present.

Gemini

2.0 Flash

**Gemini**

2.0 Flash  
Facilite sua rotina

2.5 Flash (experimental)  
Usa raciocínio avançado

2.5 Pro (experimental)  
Indicado para tarefas de alta complexidade

Deep Research with 2.5 Pro  
Receba relatórios detalhados

Nova conversa

Gems

- Geracao de Ideias
- Consultoria de carreira
- Parceiro de Programacao

Mais

- Gerenciador de Gem
- Ajuda
- Atividade
- Configurações

Insira um comando para o Gemini

Deep Research Canvas

# Google Gemini

Google AI Studio

Get API key

Chat

Stream

Video Gen

Starter Apps

History

Enable save

Chat Prompt



**It's time to build**

Experience the multimodal model from Google DeepMind

Use Google AI Studio

Try Gemini

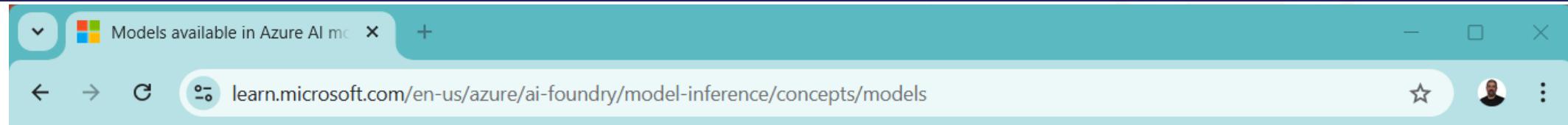
Build with the Gemini API

Get API key

[View Gemini API documentation](#)

# Copilot

The screenshot shows a web browser window for Microsoft Copilot. The title bar reads "Microsoft Copilot: seu companheiro de trabalho". The address bar shows the URL "copilot.microsoft.com/chats/9dk31rJGFqMxP1ykGXk8J". The main content area features a large text message: "Olá, o que você está pensando hoje?". Below this is a message input field labeled "Mensagem para o Copilot" with a "Resposta rápida" button. A toolbar at the bottom includes buttons for "Escreva um primeiro rascunho", "Obter aconselhamento", "Aprender algo novo", "Criar uma imagem", "Faça um plano", "Debater ideias", "Praticar um idioma", and "Faça um teste". At the bottom of the page, a footer note states: "O Copilot pode cometer erros. Ao interagir com o Copilot, você concorda com os [Termos de Uso](#). Consulte nossa".



## Model families

Explore the following model families available:

- [AI21 Labs](#)
- [Azure OpenAI](#)
- [Cohere](#)
- [Core42](#)
- [DeepSeek](#)
- [Meta](#)
- [Microsoft](#)
- [Mistral AI](#)
- [NTT Data](#)

Model availability varies by model provider, deployment SKU, and cloud. All models available in Azure AI Model Inference support the [Global standard](#) deployment type which uses global capacity to guarantee throughput. [Azure OpenAI models](#) also support regional deployments and [sovereign clouds](#)—Azure Government, Azure Germany, and Azure China 21Vianet.

### intelligence (AI) models in Azure Machine Learning - Training

Work with generative artificial intelligence (AI) models in Azure Machine Learning

#### Certification

#### [Microsoft Certified: Azure AI Engineer Associate - Certifications](#)

Design and implement an Azure AI solution using Azure AI services, Azure AI Search, and Azure Open...

#### [Documentation](#)

#### [What is Azure AI model inference? - Azure AI Foundry](#)

Apply advanced language models to variety of use cases with Azure AI model inference.

#### [Model inference endpoint in Azure AI services - Azure AI Foundry](#)

Learn about the model inference endpoint in Azure AI services

# Grok



Criar conta

Entrar

Bem-vindo ao Grok.  
Como posso ajudá-lo hoje?

What do you want to know?



DeepSearch



Think

Grok 3



Personalidades

# Grok

The screenshot shows a web browser displaying the Grok AI website at [x.ai/api](https://x.ai/api). The page has a dark background with a blurred yellow-to-white gradient overlay. At the top, there's a navigation bar with links for GROK, API, COMPANY, COLOSSUS, CAREERS, and NEWS, along with a TRY GROK button. Below the navigation, the text '[ ELEVATE YOUR APPS ]' is visible. The main feature is a large, bold title 'The Next Frontier in AI Integration'. At the bottom, there's a downward arrow icon, and three buttons: 'GROK 3 API NOW AVAILABLE', 'PRICING', and 'DOCUMENTATION' with a right-pointing arrow.

[ ELEVATE YOUR APPS ]

# The Next Frontier in AI Integration

↓

• GROK 3 API NOW AVAILABLE PRICING DOCUMENTATION ↗

# Perplexity

The screenshot shows the Perplexity AI search interface. At the top, there is a browser header with back, forward, and refresh buttons, a search bar containing "perplexity.ai", and various extension icons. The main page features a large teal logo on the left and a central search bar with the placeholder "Pergunte qualquer coisa...". Below the search bar are two buttons: "Buscar" (Search) and "Pesquisa" (Search). To the right of the search bar are icons for a magnifying glass, a globe, a clipboard, and a microphone. On the left sidebar, there are navigation links: "Nova..." (New), "Ctrl I", "Início" (Home), "Descobrir" (Discover), "Espaços" (Spaces), and "Biblioteca" (Library). A snippet from the library is visible, showing a message about a spreadsheet. At the bottom left is a user profile icon with the handle "clszvd80094" and a "pro" badge. The bottom navigation bar includes links for "Pro", "Corporativo", "API", "Blog", "Carreiras", "Loja", and "Finanças".

perplexity

Nova... Ctrl I

● Início

● Descobrir

● Espaços

● Biblioteca

Tenho uma planilha com m...  
nos já ultrapassamos a inte...

clszvd80094 pro

O que você quer saber?

Pergunte qualquer coisa...

Buscar Pesquisa

Apresentando nosso aplicativo para Windows  
Instale o aplicativo nativo do Windows

23°C Nublado  
Ribeira... H: 30° L: 16°

IA supera especialista...

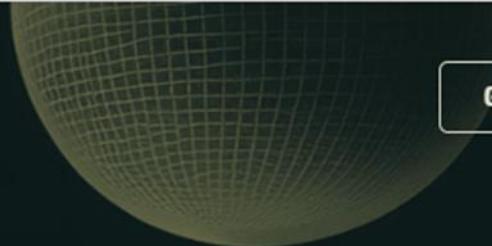
O gerador de imagens...

Pro Corporativo API Blog Carreiras Loja Finanças

# Perplexity



sonar by perplexity



Get Started

Build with the best  
AI answer engine.

Power your products with the fastest, cheapest  
grounded search APIs out there, including  
Reasoning and Deep Research capabilities.

[Start Building](#)

[Developer Docs](#)

## Outperforms the rest

Unparalleled real-time, web-wide research and  
Q&A capabilities.

## Private and secure

No LLM training on your data.

## Most affordable

Sonar's grounding request pricing has the  
competition beat.

# Hugging Face

The screenshot shows the Hugging Face website interface. At the top, there's a navigation bar with links for Models, Datasets, Spaces, Docs, Enterprise, Pricing, Log In, and Sign Up. A large orange arrow points from the top right towards the Models section. Below the navigation, there's a search bar and a banner announcing the addition of Cohere models. The main content area is titled "The AI community building the future." and features a large yellow emoji of a smiling face with hands on its cheeks. To the right, the "Models" section is displayed, showing a list of 469,541 available models. The models are categorized by task, with sections for Multimodal, Computer Vision, Natural Language Processing, and Audio. Each model entry includes the name, task type, update date, file size, and popularity metrics (downloads and stars).

huggingface.co

Hugging Face

Search models, datasets, users...

Models Datasets Spaces Docs Enterprise Pricing Log In Sign Up

Welcome Cohere on the Hub 🔥

NEW

meta-llama/Llama-2-70b

stabilityai/stable-diffusion-xl-base-0.9

openchat/openchat

illyasviel/ControlNet-v1-1

cerspense/zeroscope\_v2\_XL

meta-llama/Llama-2-13b

tiiuae/falcon-40b-instruct

WizardLM/WizardCoder-15B-V1.0

Models 469,541 Filter by name

Multimodal

- Text-to-Image
- Image-to-Text
- Text-to-Video
- Visual Question Answering
- Document Question Answering
- Graph Machine Learning

Computer Vision

- Depth Estimation
- Image Classification
- Object Detection
- Image Segmentation
- Image-to-Image
- Unconditional Image Generation
- Video Classification
- Zero-Shot Image Classification

Natural Language Processing

- Text Classification
- Token Classification
- Table Question Answering
- Question Answering
- Zero-Shot Classification
- Translation
- Summarization
- Conversational
- Text Generation
- Text2Text Generation
- Sentence Similarity

Audio

# Hugging Face

huggingface.co/models

Hugging Face Search models, datasets, users...

Models Datasets Spaces Posts Docs Enterprise Pricing Log In Sign Up

Tasks Libraries Datasets Languages Licenses Other

Filter Tasks by name

Multimodal

Audio-Text-to-Text Image-Text-to-Text

Visual Question Answering

Document Question Answering Video-Text-to-Text

Visual Document Retrieval Any-to-Any

Computer Vision

Depth Estimation Image Classification

Object Detection Image Segmentation

Text-to-Image Image-to-Text Image-to-Image

Image-to-Video Unconditional Image Generation

Video Classification Text-to-Video

Zero-Shot Image Classification Mask Generation

Zero-Shot Object Detection Text-to-3D

Image-to-3D Image Feature Extraction

Keypoint Detection

Models 1,632,777 Filter by name Full-text search Sort: Trending

- nari-labs/Dia-1.6B**  
Text-to-Speech • Updated about 12 hours ago • ↓ 18.7k • 783
- sand-ai/MAGI-1**  
Image-to-Video • Updated 3 days ago • 286
- microsoft/MAI-DS-R1**  
Text Generation • Updated 1 day ago • ↓ 1.19k • 215
- Wan-AI/Wan2.1-FLF2V-14B-720P**  
Updated 6 days ago • ↓ 13.3k • 153
- THUDM/GLM-4-32B-0414**  
Text Generation • Updated 9 days ago • ↓ 5.83k • 218
- deepseek-ai/DeepSeek-V3-0324**  
Text Generation • Updated 28 days ago • ↓ 252k • 2.73k
- bytedance-research/ChatTS-14B**  
Text Generation • Updated about 12 hours ago • ↓ 388 • 88
- microsoft/bitnet-b1.58-2B-4T**  
Text Generation • Updated about 12 hours ago • ↓ 21.5k • 720
- HiDream-ai/HiDream-I1-Full**  
Text-to-Image • Updated 2 days ago • ↓ 28.2k • 716
- Shakker-Labs/FLUX.1-dev-ControlNet-Union-Pro-2.0**  
Text-to-Image • Updated 1 day ago • ↓ 13.4k • 198
- ByteDance-Seed/UI-TARS-1.5-7B**  
Image-Text-to-Text • Updated 6 days ago • ↓ 5.5k • 126
- ostris/Flex.2-preview**  
Text-to-Image • Updated about 7 hours ago • ↓ 84 • 110
- black-forest-labs/FLUX.1-dev**  
Text-to-Image • Updated Aug 16, 2024 • ↓ 2.09M • 9.92k
- llyasviel/FramePackI2V\_HY**  
Updated 10 days ago • ↓ 145k • 78

# Hugging Face

huggingface.co/playground?modelId=deepseek-ai/DeepSeek-V3-0324&provider=novita

Models Datasets Spaces Docs Enterprise Pricing

Default ▼ ⌚ 网站地图

**SYSTEM**  
Enter a custom prompt

**USER**  
Enter user message  
+ Add message

**Models** 95  
deepseek-ai DeepSeek-V3-0324  
Novita

Compare Model page

Temperature 0,5

Max Tokens 2048

Top-P 0,7

[View Docs](#) · [Give feedback](#)

# Execução local

```
PowerShell x + v
PS C:\ > & C:\Users\AppData\Local\Programs\Ollama\Ollama list
NAME          ID      SIZE     MODIFIED
qwen2.5-coder:7b  2b0496514337  4.7 GB   5 weeks ago
PS C:\ > & C:\Users\AppData\Local\Programs\Ollama\Ollama run deepseek-r1:8b
pulling manifest
pulling 6340dc3229b0: 100%                                4.9 GB
pulling 369ca498f347: 100%                                387 B
pulling 6e4c38e1172f: 100%                               1.1 KB
pulling f4d24e9138dd: 100%                               148 B
pulling 0cb05c6e4e02: 100%                               487 B
verifying sha256 digest
writing manifest
success
>>> Qual é a melhor LLM disponível atualmente?
<think>
Okay, so I'm trying to figure out what the best LLM available is right now. Hmm, where do I start? I remember hearing about different models like GPT-4, ChatGPT, Claude 2, and maybe others like Llama or something from Microsoft. I think GPT-4 was a big deal because it's from OpenAI. But wait, isn't there a newer version now?
```

I guess the first thing to do is understand what makes an LLM "the best." Is it about the size of the model? I think bigger models generally perform better, but they also require more computational power and resources. So maybe if someone wants the absolute best performance, they'd go for the largest model available.

Wait, OpenAI has GPT-4, which is 16 billion parameters. But isn't there an even larger version now? Oh right, I think they released something called GPT-5 with 137 billion parameters. That sounds way bigger, but it also needs a lot more compute. So maybe not everyone can run that everywhere.

Then there's ChatGPT from OpenAI too, which is based on GPT-3.5. But isn't GPT-4 better than GPT-3.5? Yeah, I think so because of the larger size and more data used in training.

Claude 2 from Anthropic also comes to mind. I've heard it's really powerful too. They use something called Claude 2 XL, which is even bigger, maybe around 65 billion parameters. That's smaller than GPT-5 but still huge. So it depends on the size and how they were trained.

Wait, but what about performance? Sometimes models with more parameters might not always be better because of overfitting or data bias. Oh right, so it's not just about the number of parameters but also how well it generalizes.

I've heard that models like GPT-4 and Claude 2 have been shown to handle a variety of tasks really well. But if someone needs something specialized, maybe there are other models tailored for specific domains, like legal or medical advice. But the question is about the best overall, so probably the largest available.

Another thing is access. Not all models are available to everyone. For example, GPT-5 might require significant computational resources and may not be accessible to individuals without powerful servers. So maybe for everyday use, a model that's more accessible but still high quality would be better.

PRACTICE  
MAKES  
PERFECT



# Desafio I

Dall.e

<https://labs.openai.com/e/xYvsdZh7P3kY7OTbeD4RqdD6>

“Agora é pra valer”

# O que fazer?

Teremos muito tempo, então preparamos várias atividades para vocês.

- Atividade 1: Analisar textos em outra língua.
- Atividade 2: Qual é o equipamento defeituoso?
- Atividade 3: Criar uma nova versão da história “Chapeuzinho Vermelho”.

# Atividade 1

- São fornecidos 2 textos, cujo download pode ser feito diretamente a partir do site do curso na URL: <https://sites.google.com/i2a2.academy/agentes-autonomos-com-ia-gen/arquivos>
- Analise cada um dos textos. Você conseguiria dizer do que se trata?
- Use pelo menos 4 LLMs (ChatGPT, Gemini, Copilot e Claude, etc.) para traduzir e resumir o texto.
- Tente responder as seguintes perguntas:
  - O que deu certo?
  - O que não deu certo?
  - A tradução fez sentido?
  - E o resumo?
  - Quem foi o autor do texto?

# Atividade 2

- Faça download do arquivo “Planilha de Equipamento Defeituoso” constante no site do curso na URL: <https://sites.google.com/i2a2.academy/agentes-autonomos-com-ia-gen/arquivos>
- Na planilha você encontra 8 equipamentos com 17 sensores cada e um dos equipamentos é defeituoso.
- Em cada linha você encontrará um modelo diferente de sensor que está instalado em cada um dos 8 equipamentos.
- Em cada coluna você terá um equipamento e as medidas dos 17 sensores distintos.
- Para esta atividade, não nos importa o que cada sensor mede, apenas os valores coletados.
- Utilize uma ou mais LLMs para analisar o arquivo e lhe ajudar a descobrir qual é o equipamento defeituoso.
- Atenção. Não acredite na primeira resposta obtida... Avalie com cuidado.

# Atividade 3

- Criar uma nova versão da história “Chapeuzinho Vermelho” como uma notícia de jornal, com um final inovador e divertido.
- Deve ser integralmente criada por uma ou mais LLMs.
- A notícia deve conter pelo menos 3 imagens que tenham ligação entre si e com o contexto da história (registro fotográfico da matéria). As imagens também devem ser geradas por uma rede generativa.
- As imagens devem estar inseridas no texto de forma a enriquecer a notícia.
- No final da notícia, inclua cada um dos prompts utilizados, na ordem do conteúdo da história.
- A notícia deve montada em um arquivo PDF. O arquivo não poderá ter tamanho superior a 1 Mb.

# Como entregar?

- Acesse o formulário no link: <https://forms.gle/gdsfRtmbTG8Xmbi59>
- Insira no formulário suas respostas e faça o upload da sua história.
- Utilize o mesmo e-mail com o qual se inscreveu. Ele é a nossa referência.
- Atenção. Esta atividade **É ELIMINATÓRIA**.
- As postagem de respostas serão aceitas até **06/05/2025 às 23h59**.
- Alunos que não tiverem sua entrega até o limite estabelecido, serão considerados como desistentes em caráter definitivo e irreversível.
- No dia 07 ou 08/05/2025 os alunos aptos para a segunda fase do curso receberão um e-mail com o link do novo grupo de WhatsApp. Fiquem atentos!

# Perguntas?





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Celso Azevedo  
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“May the force be with you”.



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