

Inteligência Artificial

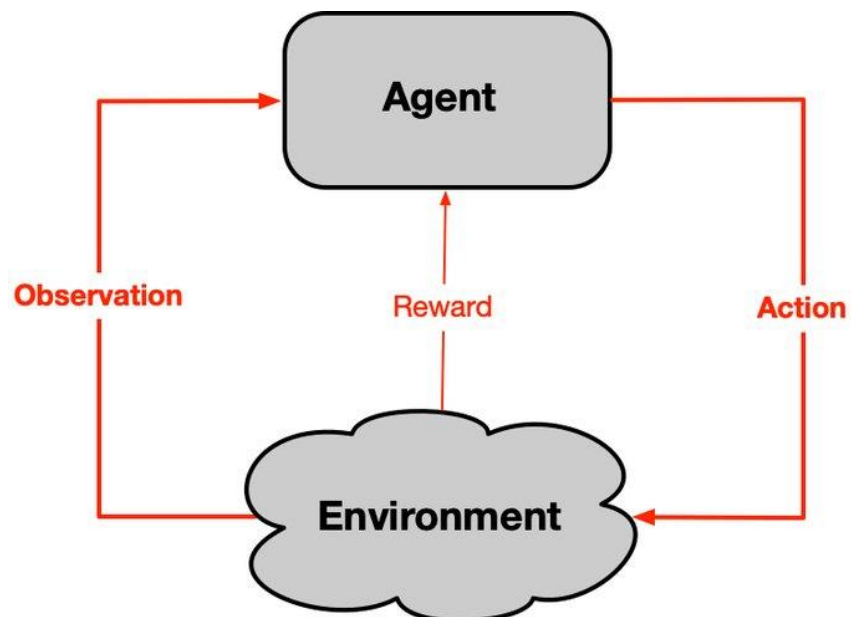
Introdução

O que é Inteligência?



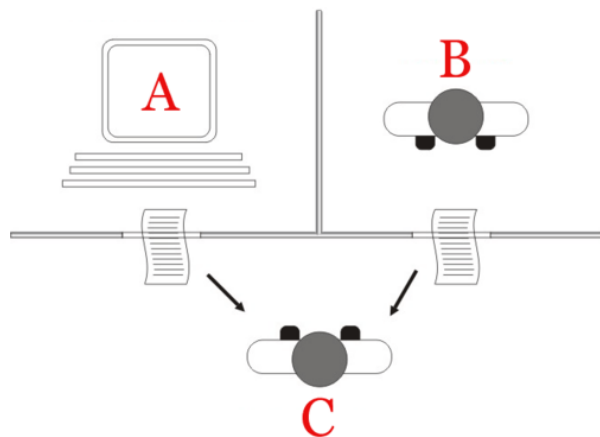
Introdução

A inteligência é a parte computacional da capacidade de um agente para aprender a prever e controlar o seu fluxo de entrada (em particular a sua recompensa) em interação com o seu ambiente

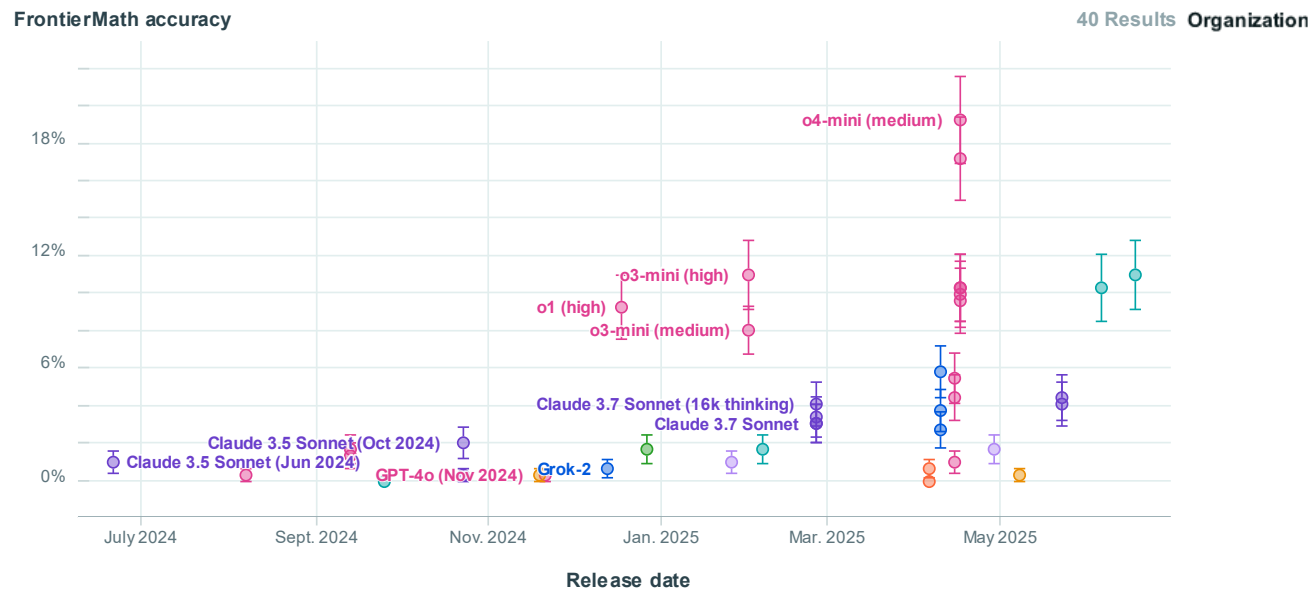


Introdução

Quando o artificial é realmente inteligente?

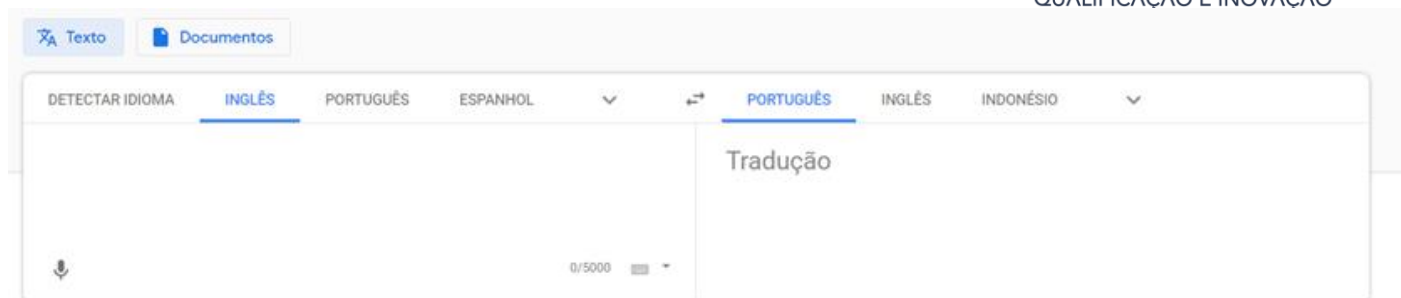


AI performance on a set of expert-level mathematics problems



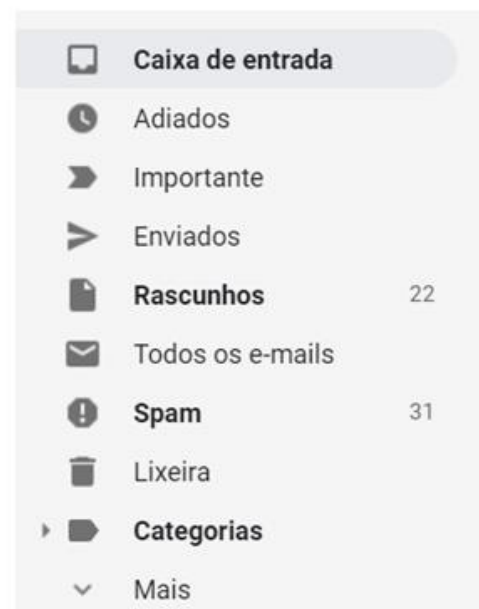
Introdução

Aprendizado de Máquina é o pilar de várias aplicações de IA



Good points for discussion for a XAI talk

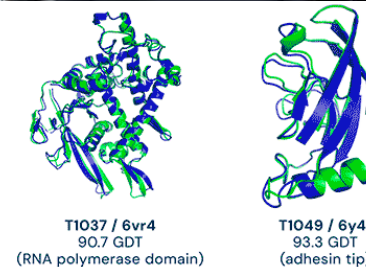
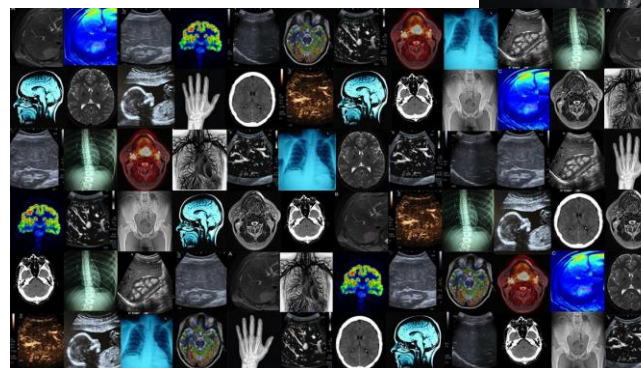
A screenshot of a chat interface. At the top, there is a profile picture and the text 'Good points for discussion for a XAI talk'. Below this, a green chat bubble contains the following text: 'When preparing for a talk on Explainable Artificial Intelligence (XAI), it's important to cover a range of topics to provide a comprehensive understanding of the subject. Here are some good points for discussion:'. This is followed by a numbered list of four points: 1. Introduction to XAI, 2. The Need for XAI, 3. Transparency vs. Accuracy Trade-off, and 4. Methods and Techniques. Each point has a bulleted list of sub-points. At the bottom of the chat bubble, there is a 'Regenerate' button. Below the chat bubble is a text input field with the placeholder 'Send a message' and a send button.



Two panels for legend selection. The 'Emotions Legends' panel on the left lists nine emotions with corresponding icons: happy (smiling face), surprise (wide-eyed face), neutral (neutral face), fear (frowning face with sweat), sad (sad face), angry (angry face), disgust (grimacing face), and contempt (smiling face with closed eyes). The 'Polarity Legends' panel on the right lists three polarities: positive (smiling face), neutral (neutral face), and negative (frowning face). Below these panels is a 'Quantitative Legends' panel with three options: 'right' (green checkmark), 'wrong' (red X), and 'timeout' (hourglass). Each legend panel has an 'Apply' button.

Introdução

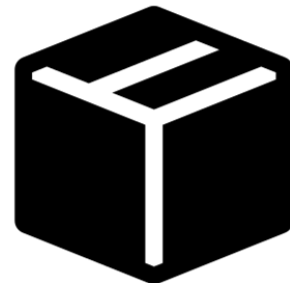
Utilizadores estão utilizando em vários cenários



● Experimental result
● Computational prediction

Aprendizado de Máquina - Machine Learning

Dados - O jeito que
o modelo vê o
mundo



Resultado - O que
o modelo
aprendeu sobre
os dados

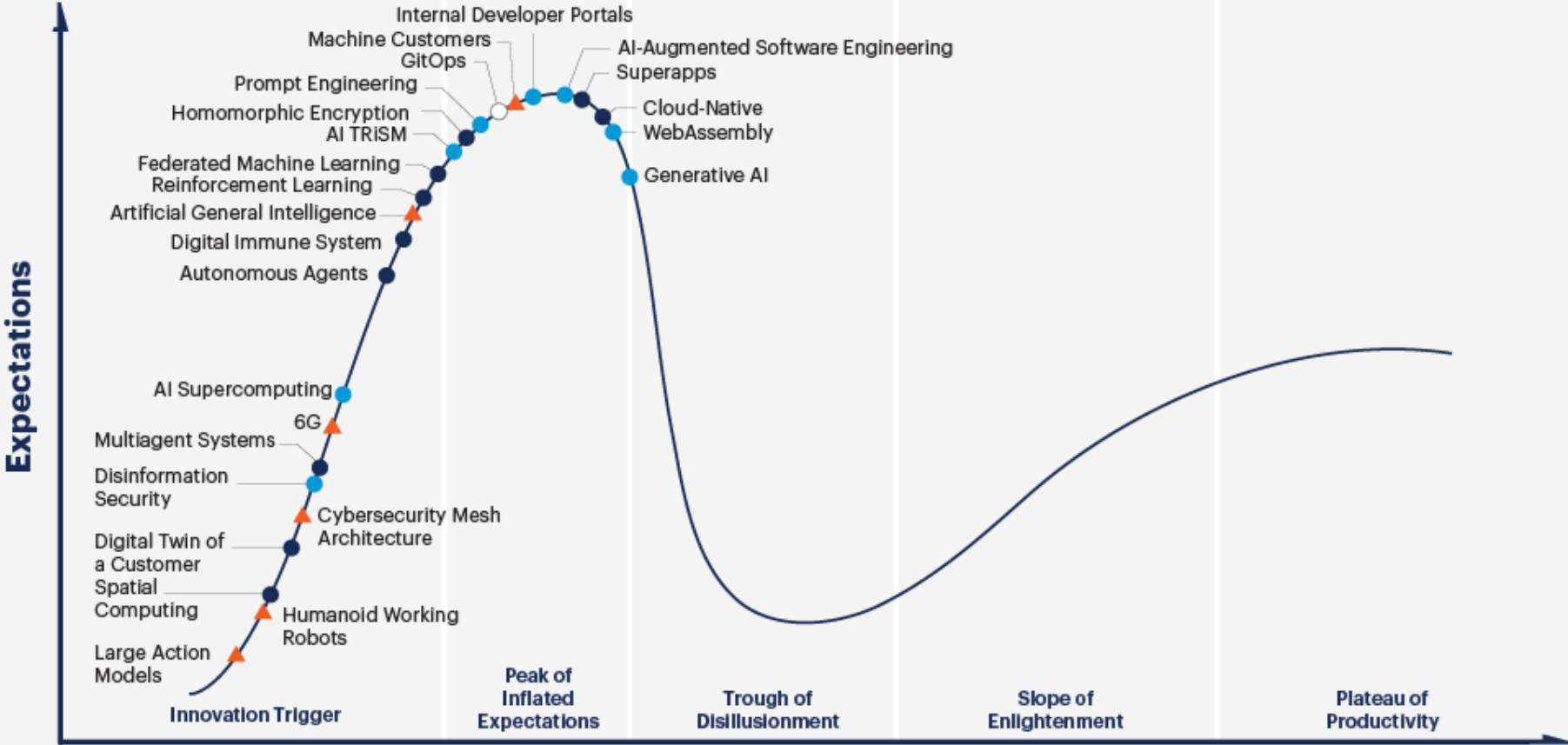
Modelo - O programa que
aprende padrões baseado em
dados

IA hoje

Muita atenção para tecnologias generativas

Investimentos bilionários aumentando a cada ano

Hype Cycle for Emerging Technologies, 2024



As of September 2024

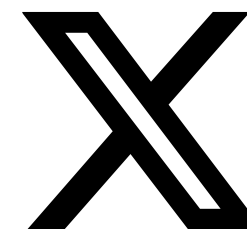
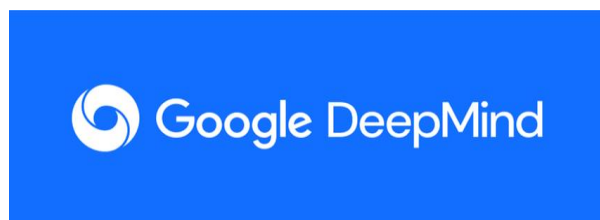
Plateau will be reached:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau

Source: Gartner
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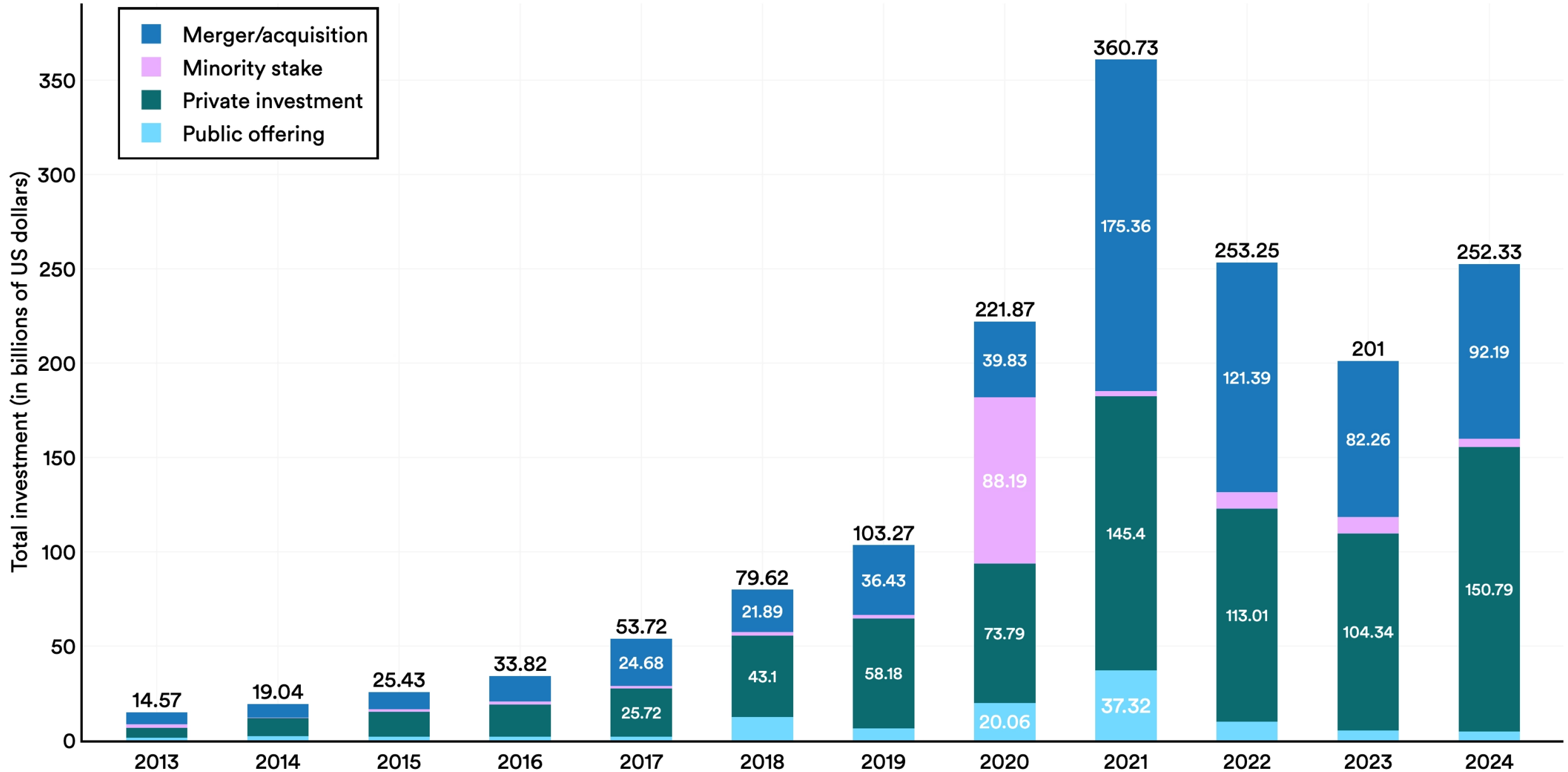


Instituições



Global corporate investment in AI by investment activity, 2013–24

Source: Quid, 2024 | Chart: 2025 AI Index report



Por que tanto investimento agora?

Por que agora funciona

Modelos de Inteligência Artificial

Um modelo é um sistema computacional treinado para realizar tarefas que normalmente exigiriam inteligência humana

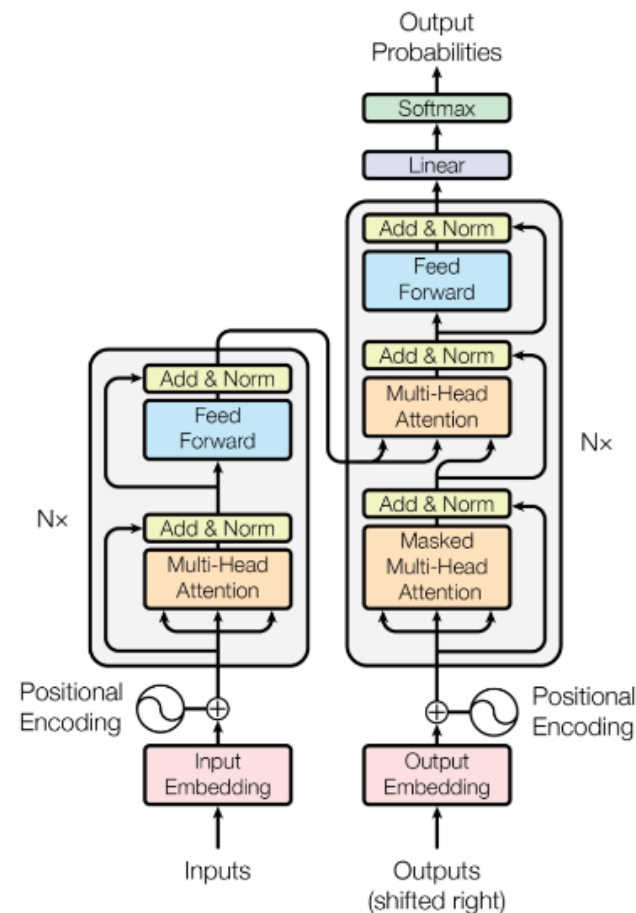
Quais tarefas? Preferencialmente todas

Quais tarefas são capazes hoje?

Modelos de Inteligência Artificial

Processamento de texto é a tarefa mais comum nos últimos anos

Avanços em processamento e em algoritmos permitiram novas aplicações



LLM

Large Language Models são modelos de IA baseado em transformers

Treinados na semitotalidade do conhecimento humano escrito e em parte do audiovisual

Dataset	Sampling prop.	Epochs	Disk size
CommonCrawl	67.0%	1.10	3.3 TB
C4	15.0%	1.06	783 GB
Github	4.5%	0.64	328 GB
Wikipedia	4.5%	2.45	83 GB
Books	4.5%	2.23	85 GB
ArXiv	2.5%	1.06	92 GB
StackExchange	2.0%	1.03	78 GB

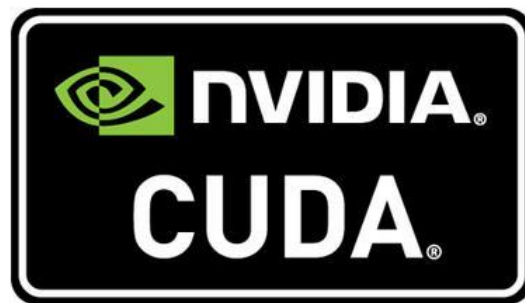
Table 1: Pre-training data. Data mixtures used for pre-training, for each subset we list the sampling proportion, number of epochs performed on the subset when training on 1.4T tokens, and disk size. The pre-training runs on 1T tokens have the same sampling proportion.

[LLaMA: Open and Efficient Foundation Language Models](#)

Hardware

Nvidia é a pioneira e atualmente a maior empresa no ramo de equipamentos para IA

Placas para processamento de vídeo podem ser usadas para processar redes neuronais



Problemas comuns em LLMs

BREAKING | BUSINESS

Lawyer Used ChatGPT In Court—And Cited Fake Cases. A Judge Is Considering Sanctions

By [Molly Bohannon](#), Former Staff. Molly Bohannon has been a Forbes news reporter since 2023.

Published Jun 08, 2023, 02:06pm EDT, Updated Jun 08, 2023, 03:42pm EDT

The Washington Post
Democracy Dies in Darkness

Tech Artificial Intelligence Help Desk Internet Culture Space Tech Policy

Innovations

ChatGPT invented a sexual harassment scandal and named a real law prof as the accused

The AI chatbot can misrepresent key facts with great flourish, even citing a fake Washington Post article as evidence

April 5, 2023 **More than 2 years ago**

🔊 9 min 🔖 📄 390

BUSINESS

Why AI ‘Hallucinations’ Are Worse Than Ever

By [Conor Murray](#), Forbes Staff. Murray is a Forbes news reporter covering ent... ▾

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Published May 06, 2025, 01:12pm EDT

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Exemplos notáveis



Exemplos notáveis



Uso mal intencionado

Clone de voz

Email phishing

Imagens falsas



Proteção de dados e Privacidade

GDPR



LGPD



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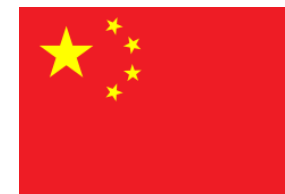
Quadro mundial



Sem legislação abrangente

Diretrizes para agências federais

Segurança nacional, competitividade



Controle de algoritmos

Aprovação previa para alguns sistemas

Soberania digital

Quadro europeu

Legislação abrangente, mas hierarquizada

Sandbox's geridas de forma autónoma

Segurança do utilizador



Guia

