

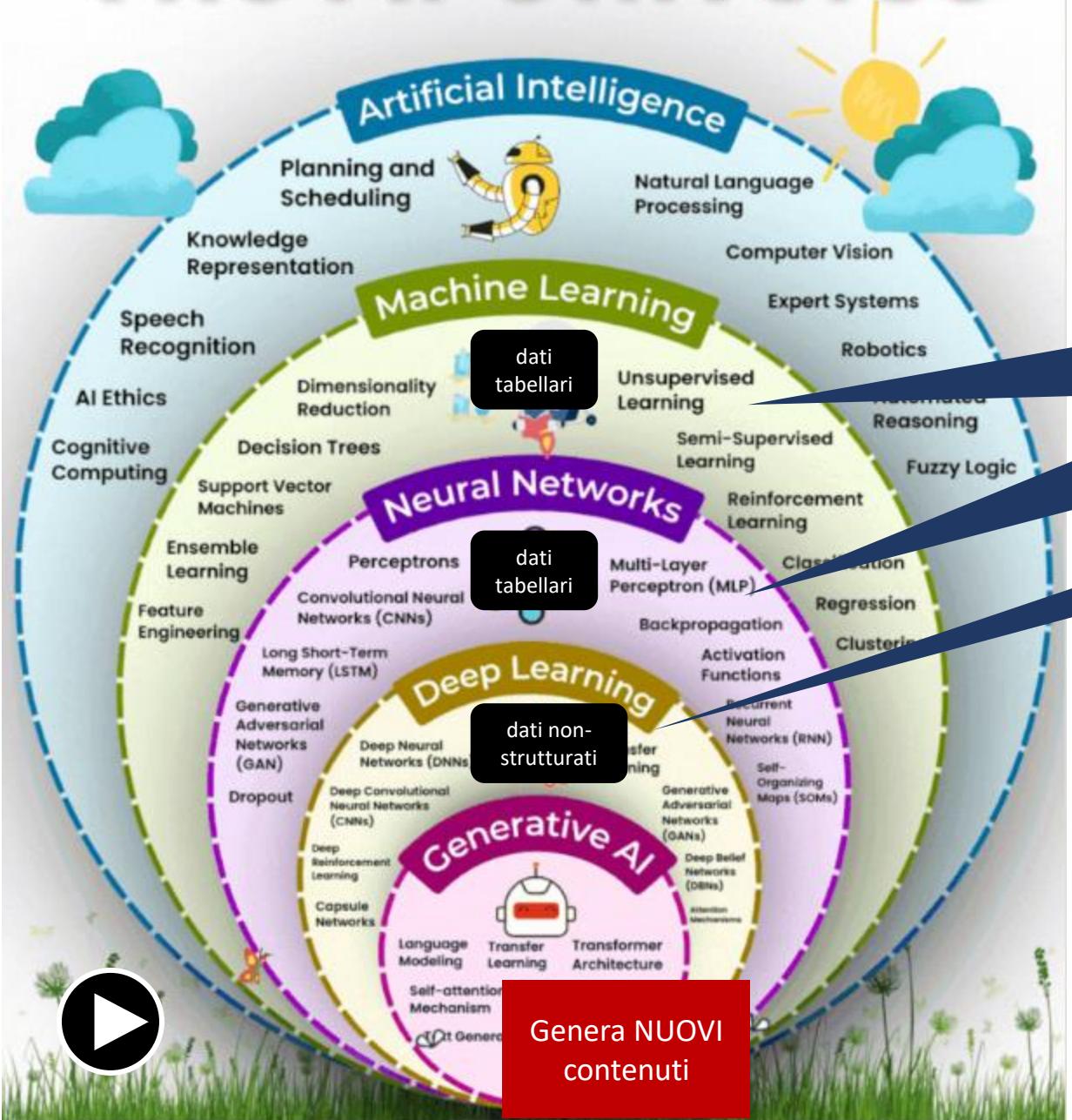
# AZURE OPEN AI E CHATGPT: SCOPI ED UTILIZZO

di Antonio Piemontese

*Febbraio 2026*



# The AI Universe



Capire i dati aziendali,  
**Prevedere** i fenomeni di  
business («analisi predittive»),  
Decisioni operative

Generare  
contenuto  
NUOVO

Tilly Norwood, l'attrice che non esiste perché creata con l'intelligenza artificiale. Ma è già stata ingaggiata da un'agenzia di talenti

[link](#)

di Walter Veltroni

Fa discutere la prima star realizzata con l'Ai. Dubbi sul futuro di Hollywood



**Eva Murati, la prima attrice italiana realizzata con l'intelligenza artificiale debutta a Roma**

di Cristina Marrone

[link](#)

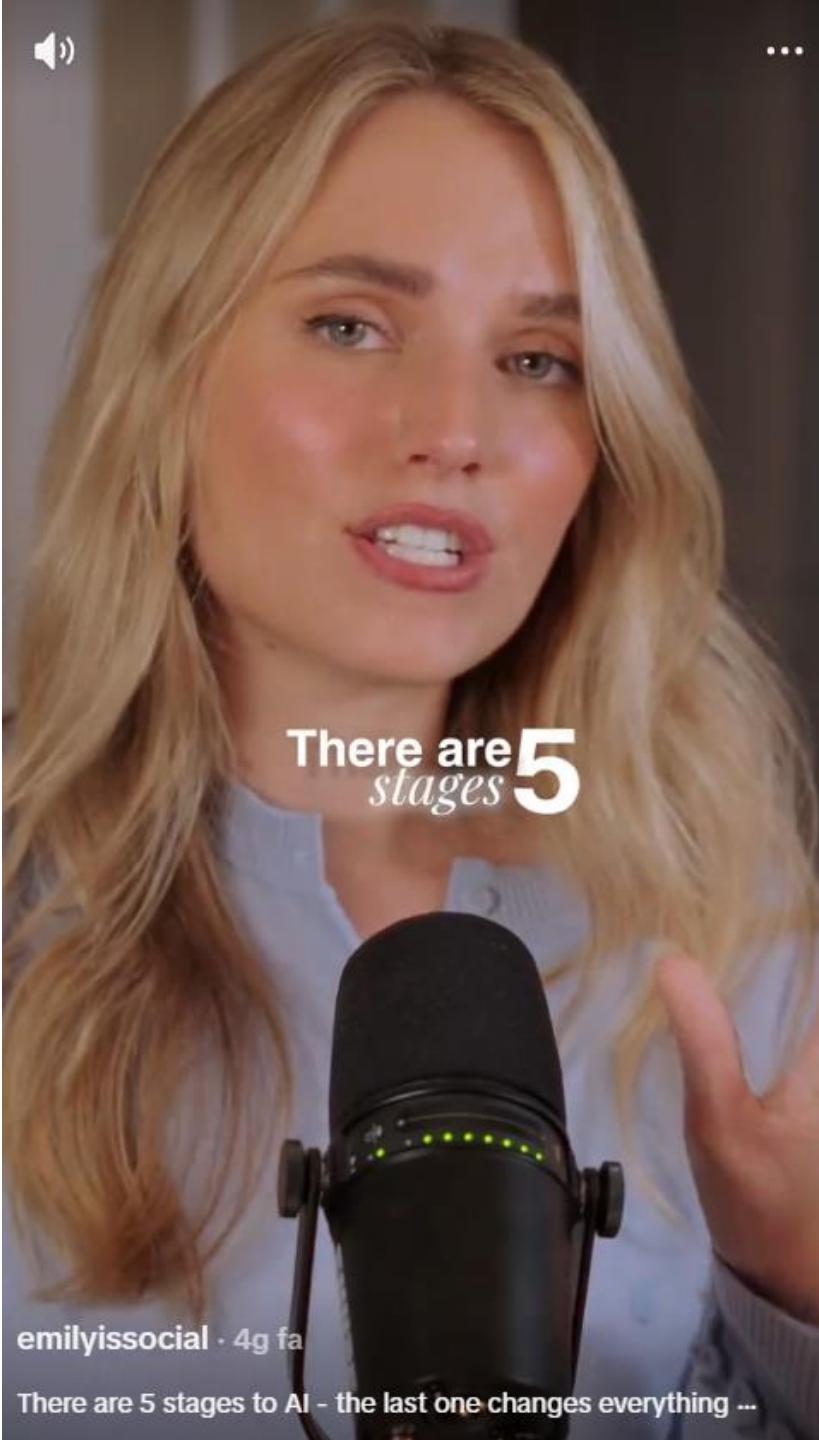
La finta attrice è protagonista di The Last Image, cortometraggio italiano realizzato con l'Ai generativa grazie al lavoro di 50 persone



questa è l'evoluzione di MidJourney in meno di 2 anni.



Non è una buona  
presentazione della AI  
generativa, anche se molto  
diffusa



play del  
video

# Mit: 95% of GenAI business projects do not produce value, only 5% bring returns

Unofficial AI use among employees exceeds licences, influencing job change more than official projects. This is the finding of the report 'State of AI in Business 2025', compiled by the research team Mit Nanda (Networked Agents and Decentralised AI) on more than 300 AI initiatives, 52 company interviews and 153 questionnaires collected at industry conferences

20 August 2025

Despite investments of between USD 30 and 40 billion by companies, 95 per cent of generative artificial intelligence (GenAI) projects do not produce any concrete impact on company accounts. This is the finding of the report 'State of AI in Business 2025', compiled by the Mit Nanda (Networked Agents and Decentralised AI) research team on more than 300 AI initiatives, 52 company interviews and 153 questionnaires collected at industry conferences.

The research highlights a clear divide, dubbed the 'GenAI Divide': only five per cent of integrated pilot projects generate value, with returns in the millions, while the vast majority remain stuck at the starting line, with no effect on company accounts. It is not 'model quality' or 'regulation' that are the determining factors, according to the research, but the approach taken by companies.

## Reduced testing

.

Popular tools such as ChatGPT and Copilot have exceeded 80% adoption and nearly 40% deployment, but they only affect individual productivity, not operating margin. Customised enterprise systems, on the other hand, are often rejected: 60% of companies evaluate them, **but only 20% get to test them** and barely 5% take them into production. The main reasons are the difficulty of integrating them into workflows, the lack of contextual learning and the lack of adaptability.

The phenomenon is reflected at sector level: out of nine sectors analysed, only technology and media show signs of structural transformation. In **healthcare, finance, retail and manufacturing, adoption remains superficial, with experiments without any particular effect**. Concrete savings emerge mainly from the reduction of external service costs: between USD 2 and 10 million per year in customer service and document processing and up to 30 per cent less costs for creative agencies.

An executive of a medium-sized manufacturing company summed it up like this: 'The enthusiasm on LinkedIn says that everything has changed, but in our operations nothing is really different. We process some contracts faster, but that's about it'.

**STUDIO MIT NANDA**

# AI, in azienda è un flop? Ma il successo è possibile, ecco come

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[Home](#) > [Industry 4.0/Innovazione In Azienda](#)

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Secondo il report *The GenAI Divide: State of AI in Business 2025*, realizzato dal MIT (Project NANDA) solo il 5 per cento dei progetti di intelligenza artificiale porta vantaggi alle aziende. Ma a ben leggere, è una questione non tecnologica, ma di buone scelte da fare e di cultura

Pubblicato il 25 ago 2025

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**Maurizio Carmignani**

Founder & CEO – Management Consultant, Trainer & Startup Advisor

link  
all'articolo

## Text 2 Text



**Gemini**



**Qwen3**



sicurezza e scalabilità



Image Generation  
**marzo 2025**  
**settembre**  
**2025**

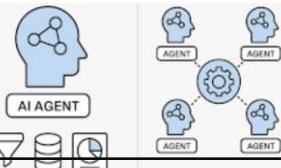
## Text 2 Video (con editor)



## Text 2 Video (pochi secondi)



## AI agentica



## Text 2 Music



## Image 2 Text



## Text 2 Speech / Speech 2 Text / Speech 2 Speech



openAI

AssemblyAI

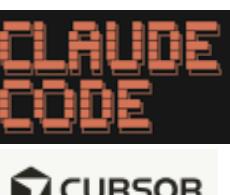
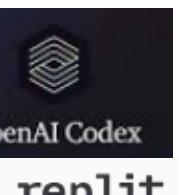
Real-time Language  
Translation?  
non matura



## Language Translation (T2T)



## Podcast (T2S)



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## Differenza fondamentale (spesso confusa)

Termine	Significato reale
Open-source classico	codice + training data + pipeline
Open-weights	pesi disponibili, training non replicabile
Closed	solo API

Molti tool di gen AI sono «**multimodali**» (es. chatGPT, Gemini, Claude, ecc)

**Mode** (formato): testo, immagine, video, codice, musica, audio, speech, 3D(spatial), PPT, XLS, ecc

## Trasformazioni (il 2)

Quante trasformazioni sono possibili?

- In teoria, dati  $n$  modi, sono possibili  $n(n-1)$  trasformazioni, ad esempio.
- testo, immagine e video ( $n=3$ )
- $3(2) = 6$  possibili trasformazioni

Nessuno strumento fornisce – ad oggi, settembre 2025 – tutti i modi possibili, e neppure tutte le trasformazioni possibili con quegli  $n$  modi forniti

Vediamo il caso di **chatGPT5**:

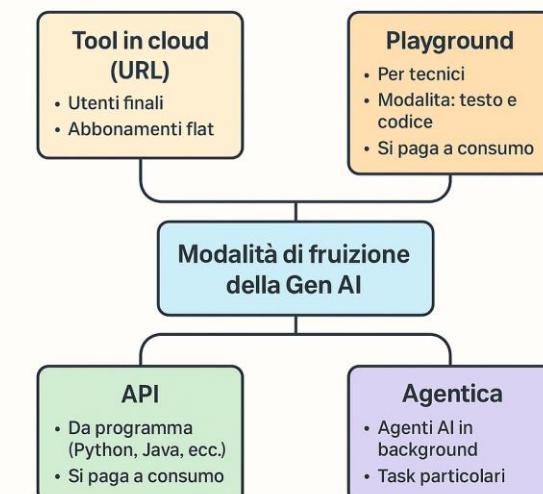
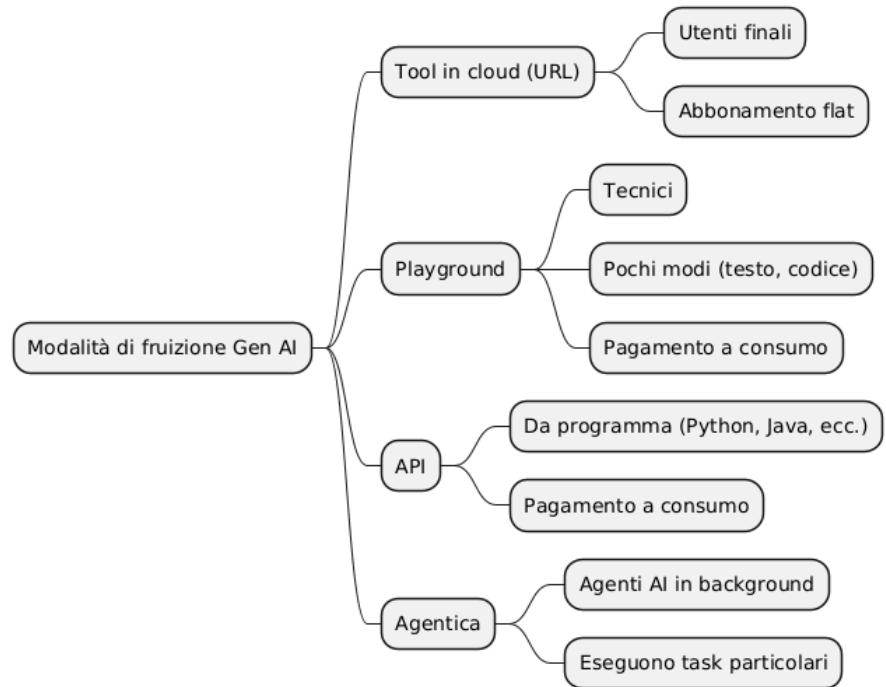
Modi:

- ✓ testo, immagine, video (sora), codice, XLS e PPT, CSV, PDF, speech (solo verso/da chatGPT)
- ✗ audio, podcast, 3D

Trasformazioni: T2T, T2I, I2T, T2V (Sora), T2C, C2T, C2C, T2XLS, T2PPT, ecc (non certo  $9 \times 8 = 72$  trasformazioni)

## Modalità di **fruizione** della gen AI

- Da tool in cloud (URL) – per utenti finali e con abbonamenti flat
- Da playground: per tecnici, pochi «modi» (testo e il codice), si paga a consumo (poco!)
  - [OpenAI Playground](#)
  - [Claude Consolle](#)
  - Dentro Google AI Studio
- API (da programma Python, Java, ecc). Si paga a consumo (poco!)
- Agentica: agenti AI che girano in background e eseguono task particolari (ad ese. Codex di OpenAI, n8n, zapier, ecc)



## Come accedere a chatGPT?

- App mobile



- App desktop (per Windows 10/11 e iOS di Apple)



- Browser

[chatgpt.com](https://chatgpt.com)

- API (Python, C#, JavaScript)

- Playground

Tramite una API key,  
reperibile [qui](#)

## Quali abbonamenti?

- Free



- Plus (20\$ mese)



- Enterprise



- Teams



- Education

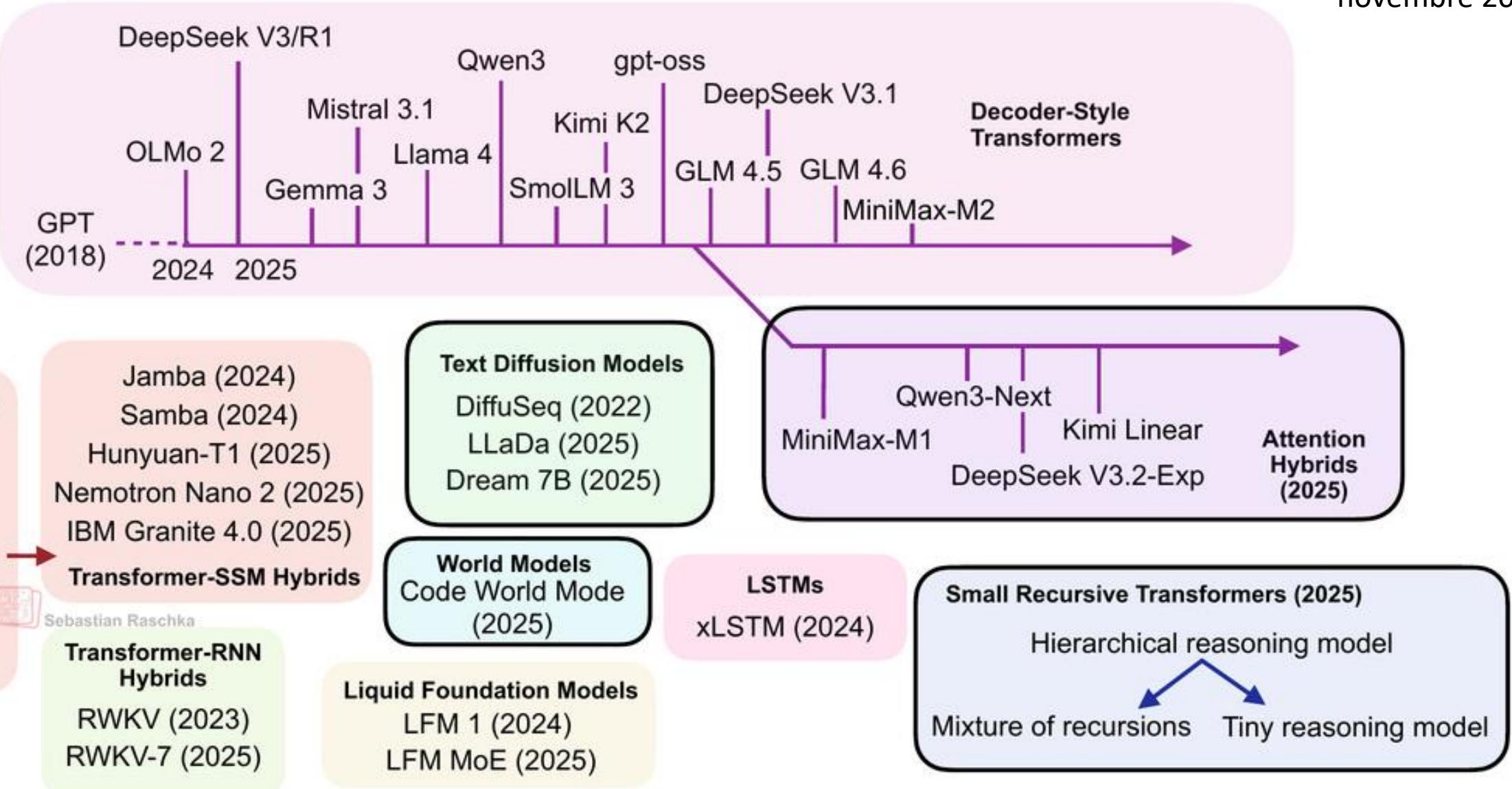


- Pro



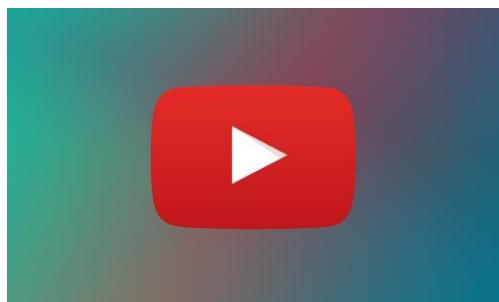
# When Generative AI Is and Is Not Effective

Use-case family	Generative models' current usefulness	Example use cases
Prediction/forecasting	Low	Risk prediction, customer churn prediction, sales/demand forecasting
Decision intelligence	Low	Decision support, augmentation, automation
Segmentation/classification	Medium	Clustering, customer segmentation, object classification
Recommendation systems	Medium	Recommendation engine, personalized advice, next best action
Content generation	High	Text generation, image and video generation, synthetic data
Conversational user interfaces	High	Virtual assistant, chatbot, digital worker

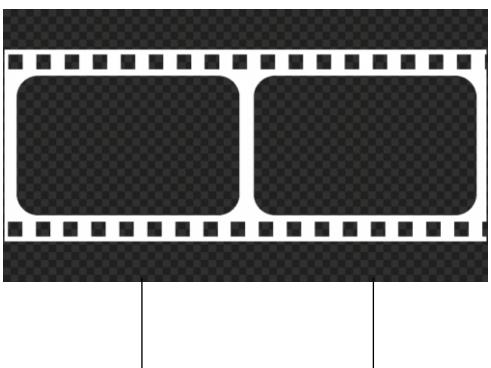




immagini



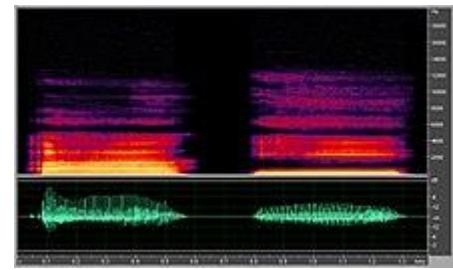
video



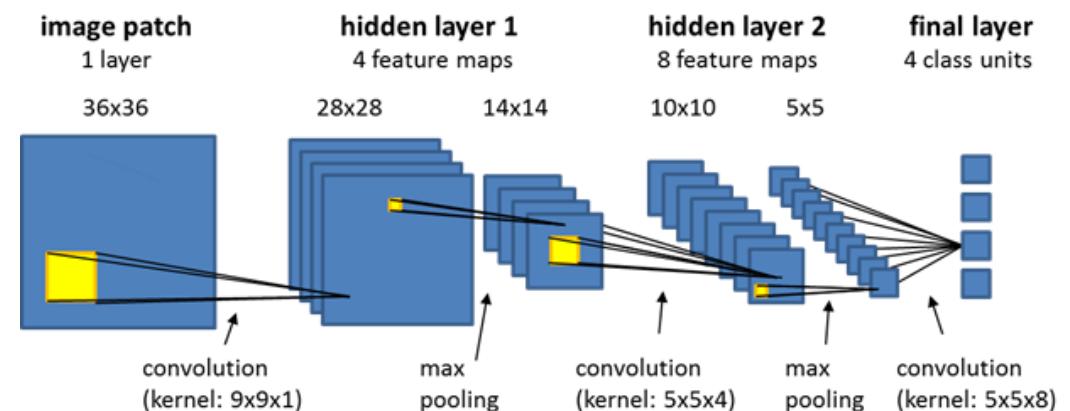
frame (immagini)



audio



spettrogramma (immagine)



CNN per classificazione di immagini

## 2. Come funzionano gli LLM

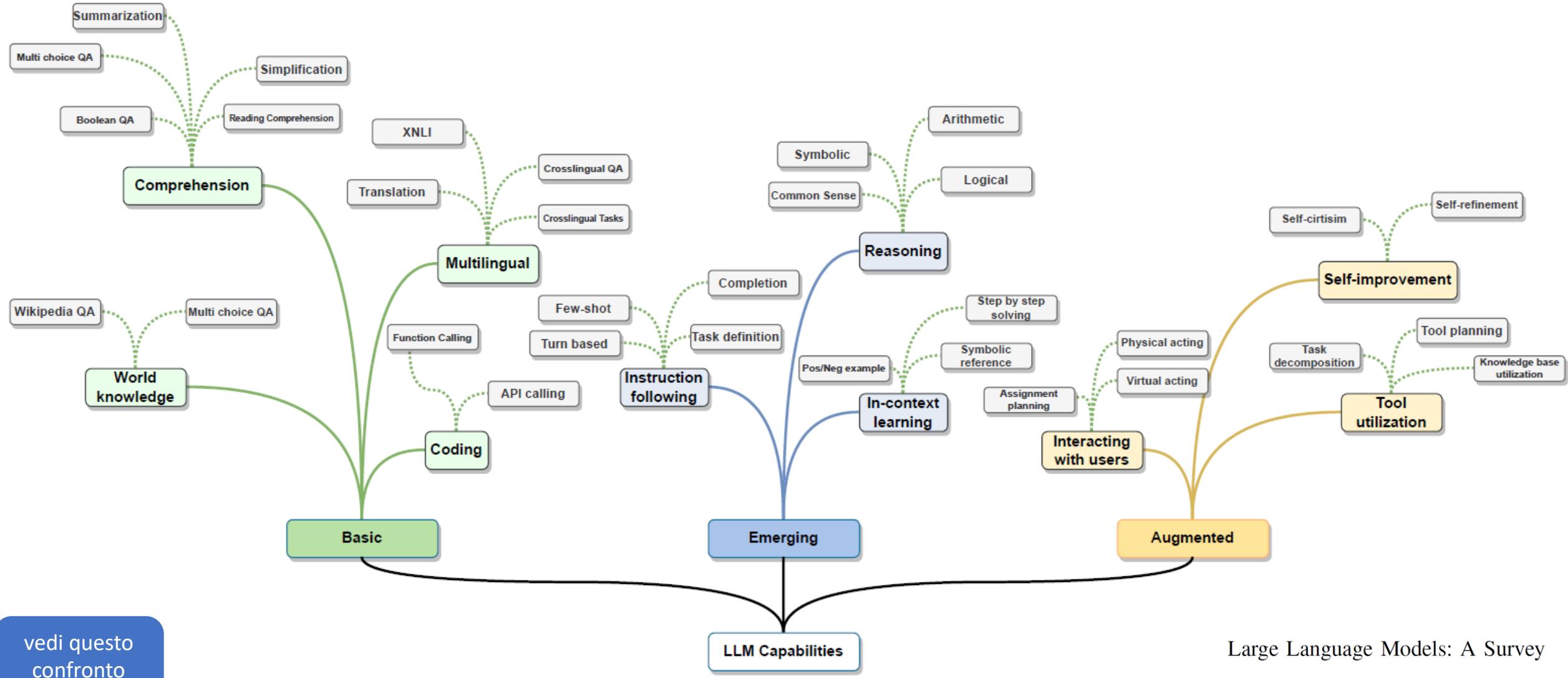


# Language model

A **language model** is a probability distribution over sequences of words.<sup>[1]</sup> Given any sequence of words of length  $m$ , a language model assigns a probability  $P(w_1, \dots, w_m)$  to the whole sequence. Language models generate probabilities by training on [text corpora](#) in one or many languages. Given that languages can be used to express an infinite variety of valid sentences (the property of [digital infinity](#)), language modeling faces the problem of assigning non-zero probabilities to linguistically valid sequences that may never be encountered in the training data. Several modelling approaches have been designed to surmount this problem, such as applying the [Markov assumption](#) or using neural architectures such as [recurrent neural networks](#) or [transformers](#).

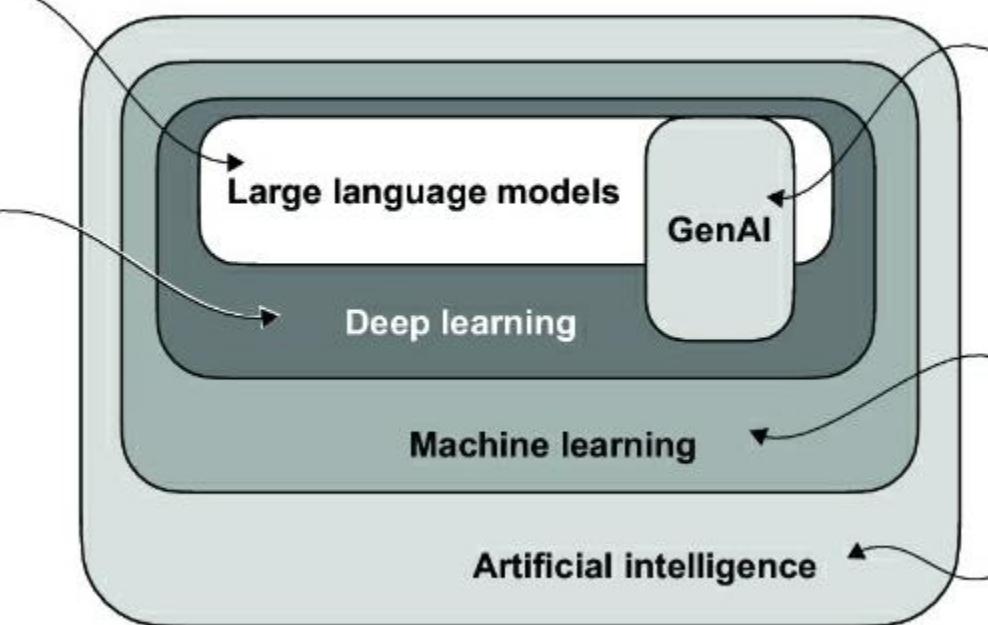
Language models are useful for a variety of problems in [computational linguistics](#); from initial applications in [speech recognition](#)<sup>[2]</sup> to ensure nonsensical (i.e. low-probability) word sequences are not predicted, to wider use in [machine translation](#)<sup>[3]</sup> (e.g. scoring candidate translations), [natural language generation](#) (generating more human-like text), [part-of-speech tagging](#), [parsing](#),<sup>[3]</sup> [Optical Character Recognition](#), [handwriting recognition](#),<sup>[4]</sup> [grammar induction](#),<sup>[5]</sup> [information retrieval](#),<sup>[6][7]</sup> and other applications.

# Le capacità dei LLM



**Deep neural network for parsing and generating human-like text**

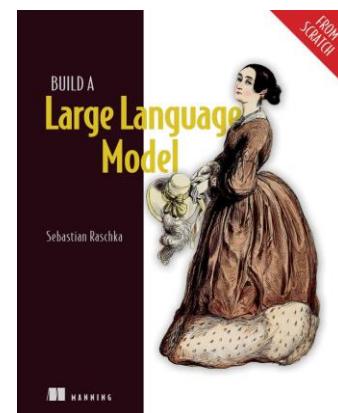
**Machine learning with neural networks consisting of many layers**

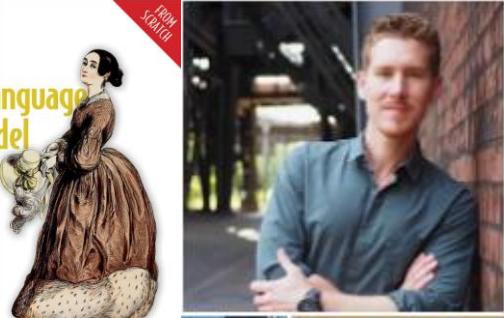


**GenAI involves the use of deep neural networks to create new content, such as text, images, or various forms of media**

**Algorithms that learn rules automatically from data**

**Systems with human-like intelligence**

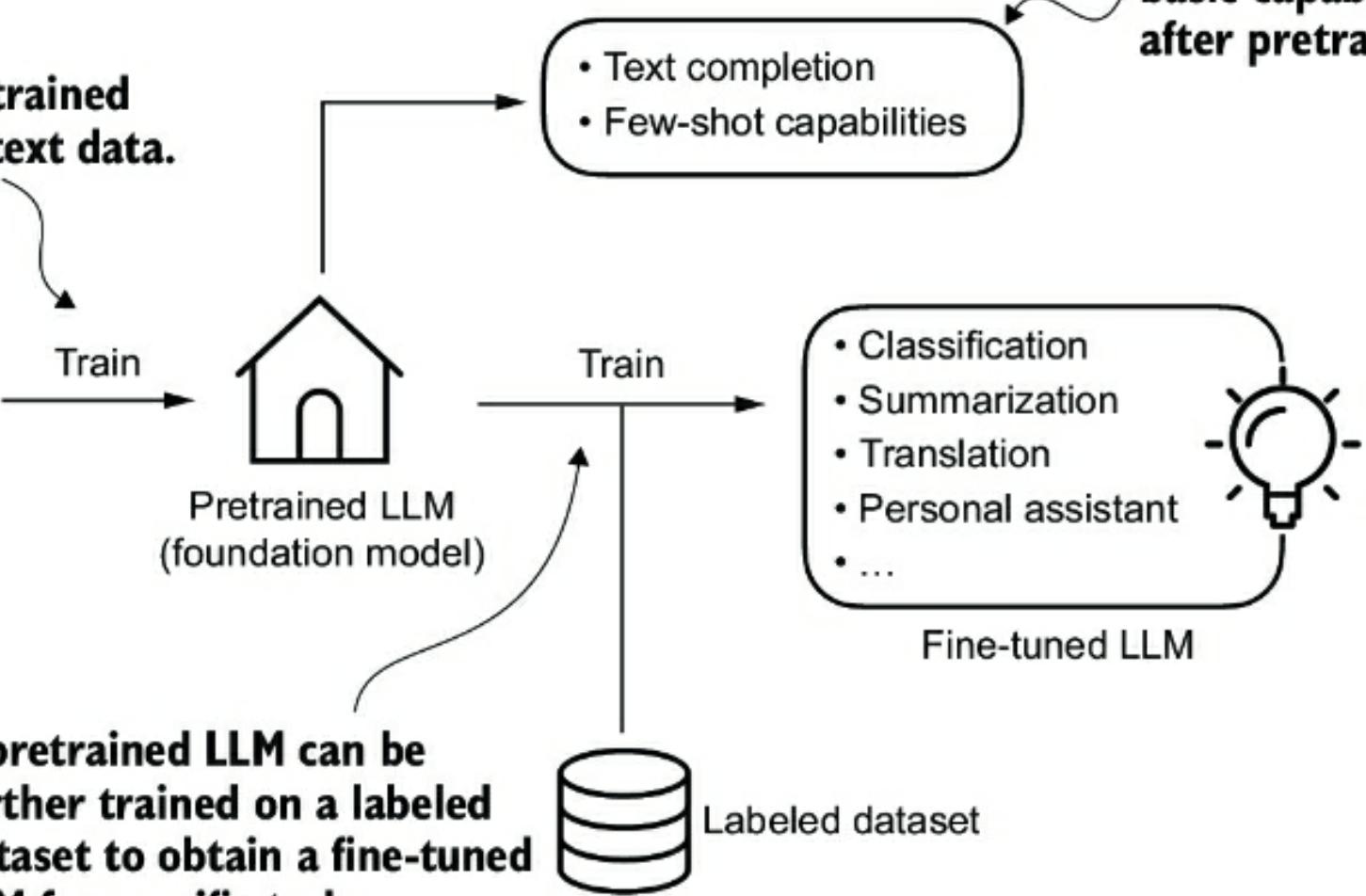
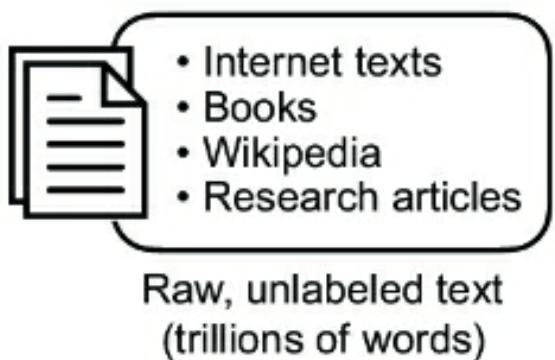




«Comportamenti emergenti»

The LLM has a few basic capabilities after pretraining.

An LLM is pretrained on unlabeled text data.

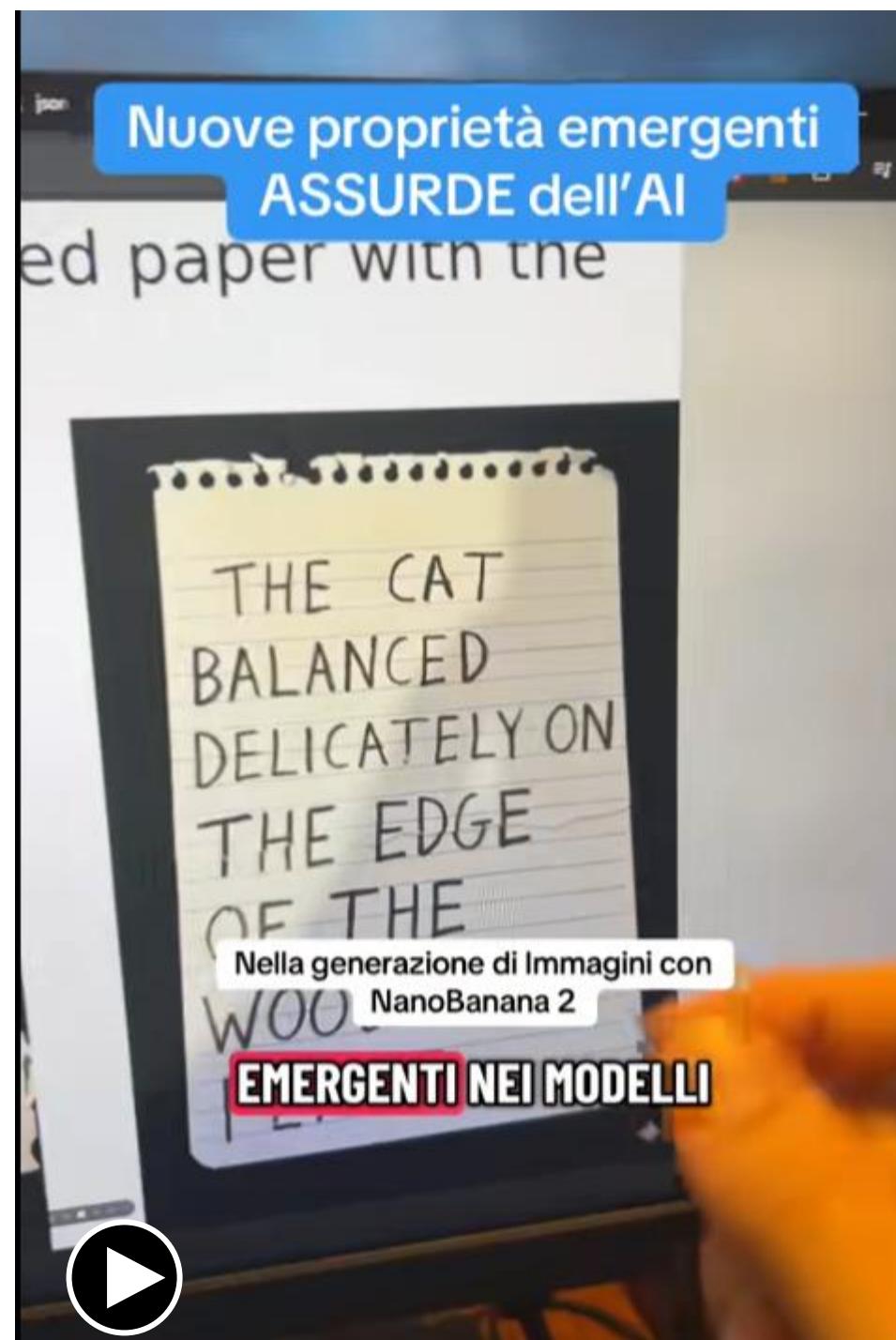


A pretrained LLM can be further trained on a labeled dataset to obtain a fine-tuned LLM for specific tasks.

simonerizzo98

Simone Rizzo

dicembre 2025



Nuove proprietà EMERGENTI nei modelli di generazione delle immagini, in particolare Nano Banana 2

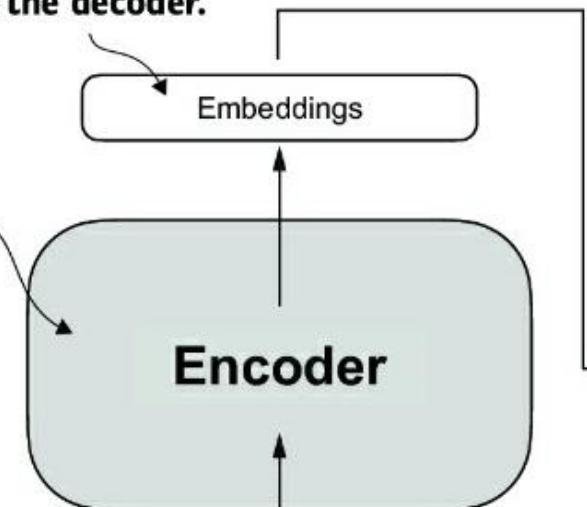
**4. The encoder returns embedding vectors as input to the decoder.**

**3. The encoder has access to the complete input text to produce text encodings used by the decoder.**

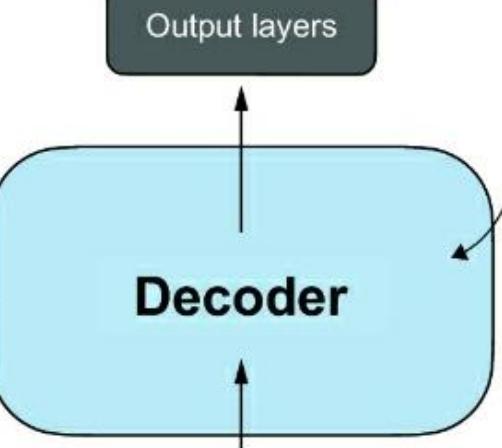
**2. The input text is prepared for the encoder.**

**1. The input text to be translated.**

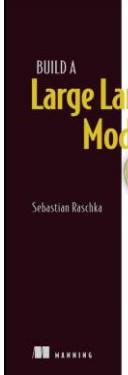
“This is an example”



“Das ist ein Beispiel”



**8. The complete output (translation)**



**7. The decoder generates the translated text one word at a time.**

**6. The input text is prepared for the decoder.**

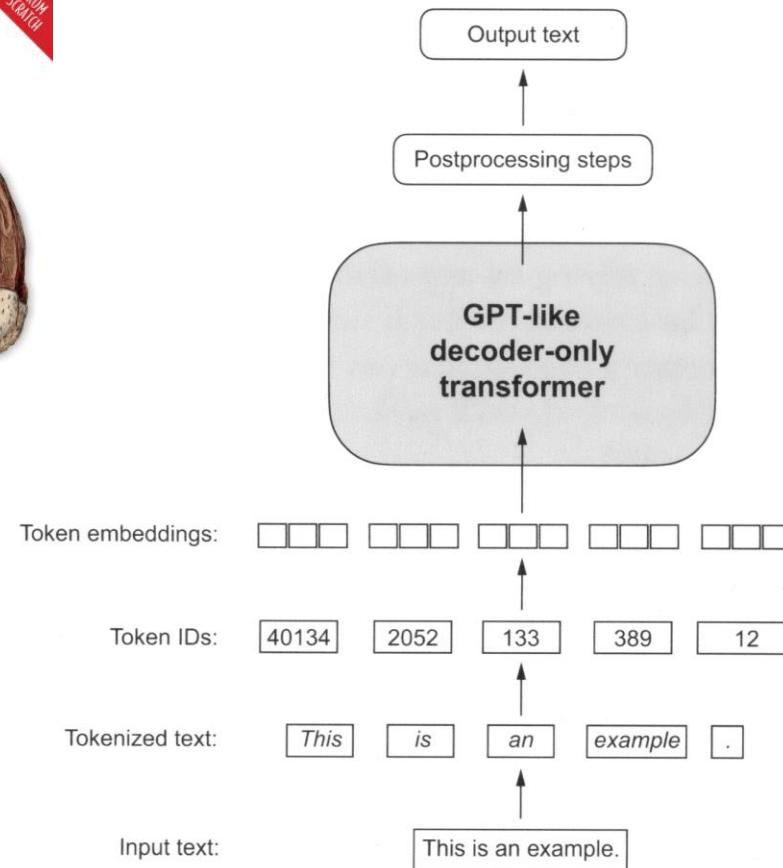
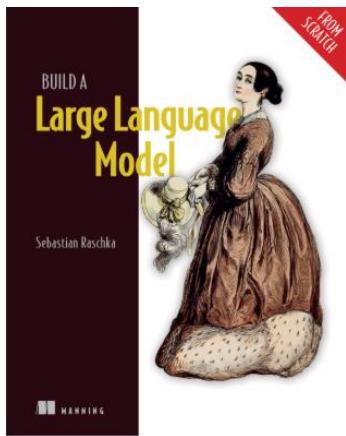
Input text

“Das ist ein”

**5. A partial output text: the model completes the translation one word at a time.**

«Attention is all you need»

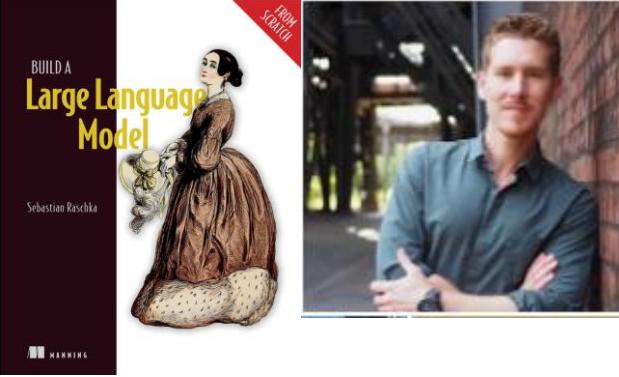
L'architettura a trasformatori - Google 2017



A view of the text processing steps in the context of an LLM. The process starts with input text, which is broken down into tokens and then converted into numerical token IDs. These IDs are linked to token embeddings that serve as the input for the GPT model. The model processes these embeddings and generates output text. Finally, the output undergoes postprocessing steps to produce the final text. This flow illustrates the basic operations of tokenization, embedding, transformation, and postprocessing in a GPT model that is implemented from the ground up in this book.

Semplice (a parte i «pericoli»)





## TRANSFORMERS VS. LLMs

Today's LLMs are based on the transformer architecture. Hence, transformers and LLMs are terms that are often used synonymously in the literature. However, note that not all transformers are LLMs since transformers can also be used for computer vision. Also, not all LLMs are transformers, as there are LLMs based on recurrent and convolutional architectures. The main motivation behind these alternative approaches is to improve the computational efficiency of LLMs. Whether these alternative LLM

architectures can compete with the capabilities of transformer-based LLMs and whether they are going to be adopted in practice remains to be seen. For simplicity, I use the term “LLM” to refer to transformer-based LLMs similar to GPT. (Interested readers can find literature references describing these architectures in appendix B.)

**GPT-3 DATASET DETAILS**

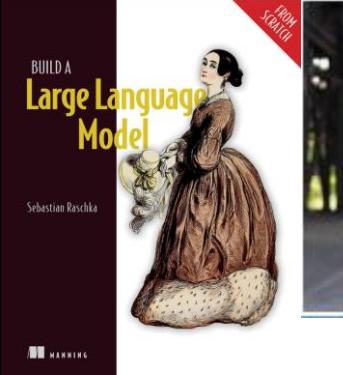
Table 1.1 displays the dataset used for GPT-3. The proportions column in the table sums up to 100% of the sampled data, adjusted for rounding errors. Although the subsets in the Number of Tokens column total 499 billion, the model was trained on only 300 billion tokens. The authors of the GPT-3 paper did not specify why the model was not trained on all 499 billion tokens.

For context, consider the size of the CommonCrawl dataset, which alone consists of 410 billion tokens and requires about 570 GB of storage. In comparison, later iterations of models like GPT-3, such as Meta's LLaMA, have expanded their training scope to include additional data sources like Arxiv research papers (92 GB) and StackExchange's code-related Q&As (78 GB).

The authors of the GPT-3 paper did not share the training dataset, but a comparable dataset that is publicly available is *Dolma: An Open Corpus of Three Trillion Tokens for LLM Pretraining Research* by Soldaini et al. 2024 (<https://arxiv.org/abs/2402.00159>). However, the collection may contain copyrighted works, and the exact usage terms may depend on the intended use case and country.

**Table 1.1 The pretraining dataset of the popular GPT-3 LLM**

Dataset name	Dataset description	Number of tokens	Proportion in training data
CommonCrawl (filtered)	Web crawl data	410 billion	60%
WebText2	Web crawl data	19 billion	22%
Books1	Internet-based book corpus	12 billion	8%
Books2	Internet-based book corpus	55 billion	8%
Wikipedia	High-quality text	3 billion	3%



**Creates plausible text  
given a partial input text**

Input

Output

TEXT COMPLETION

Breakfast is the

most important meal of the day.

ZERO-SHOT

Translate English to German:  
breakfast =>

Frühstück

FEW-SHOT

gaot => goat  
sheo => shoe  
pohne =>

phone

**Completes a  
task without an  
explicit example**

**Completes a task given a  
few examples of the task**

il PDF  
scaricato

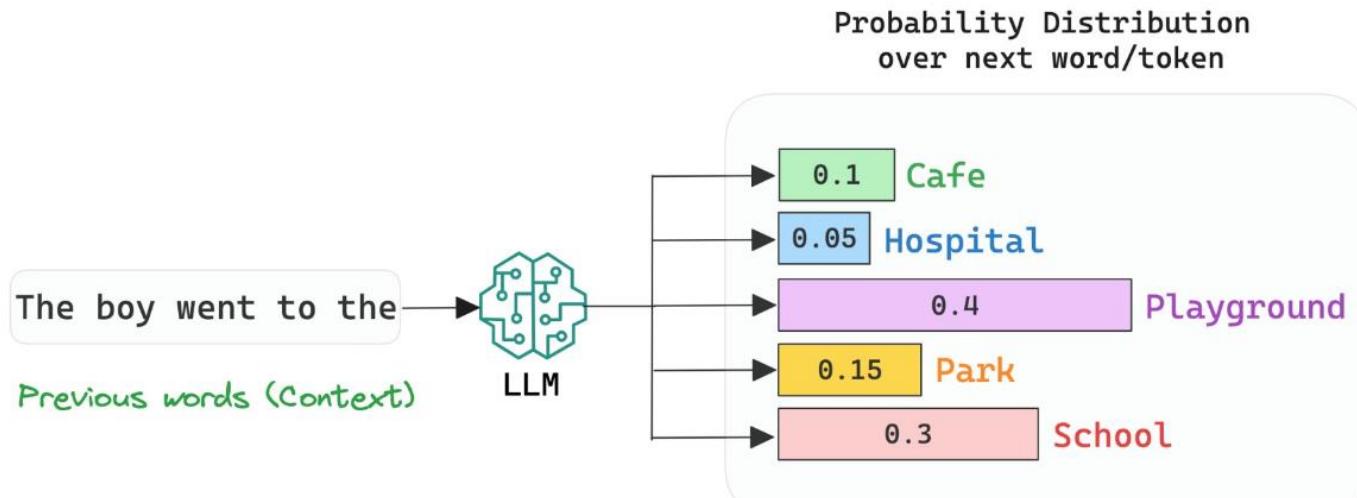
The model is simply trained to  
predict the next word

La base di tutto: le  
probabilità condizionate

le probabilità  
condizionate

Un LLM è un  
classificatore di  
token! (Damien)

## How Language models work !?



$$P(\text{'Playground'}/\text{'The boy went to'}) = 0.4$$

Probability that the next word is 'Playground' given that  
the context is 'The boy went to the'

scelte in base  
alla  
temperatura

La seconda fonte di  
casualità, oltre alla  
temperatura, è il  
differente  
arrotondamento sulle  
varie GPU utilizzate per  
l'inferenza che si  
accumulano (Damien).

## Loss calculation !?



$$\text{Loss} = -\log(P(\text{'Playground'}/\text{'The boy went to'})) = -\log(0.4)$$

Cross-entropy loss / Negative log-likelihood

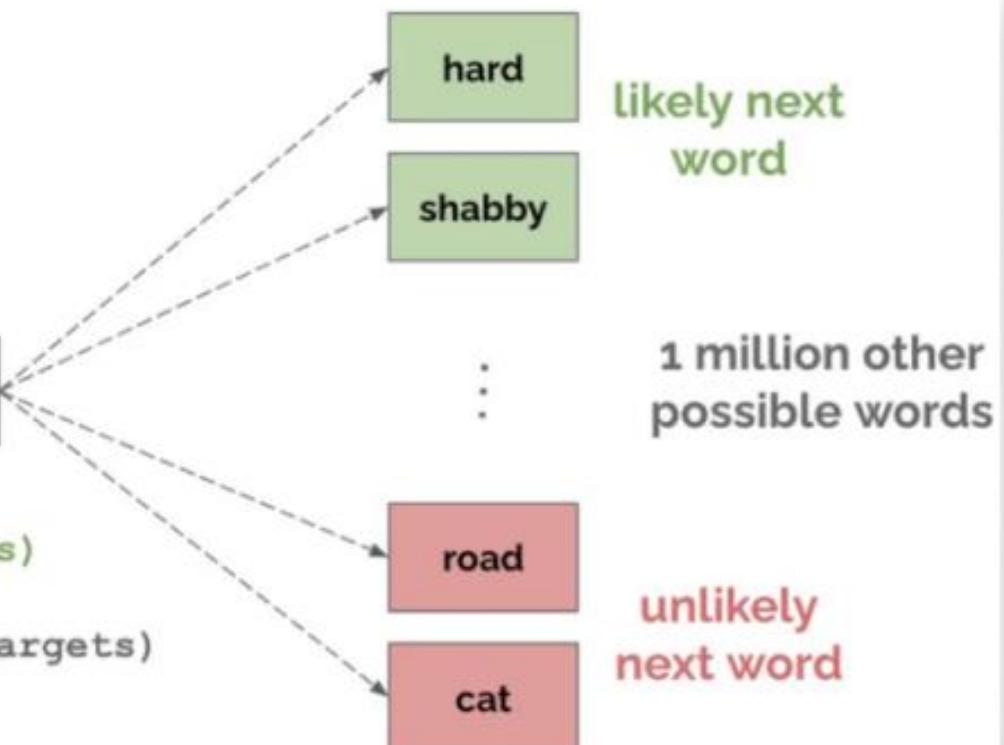
[Funzione di perdita per ML auto-supervisionato](#)

If we always pick the word with the highest probability, we end up with repetitive outputs, making LLMs almost useless and stifling their creativity.

If we were predicting words,  
we would need to predict  
**~1 million classes**

Attention → is → not → too

```
# preds shape (B, T, # classes)
# would be (B, T, 1e7)
loss = cross_entropy(preds, targets)
```



# Talk about the Temperature and TopP parameters

Temperature is like how wild you want your choices to be.

If you set it low (like 0), it's like choosing **vanilla every time**—safe and predictable. If you set it high (like 1 or more), it's like saying, "Surprise me!" You might get wild flavors like bubblegum or pickle.

TopP is like looking at a list of the most popular toppings and deciding to only pick from the top few favorites.

If TopP is low (like 0.1), you only pick from the **very top choices** (like sprinkles and chocolate). If it's high (like 1), you're open to considering every topping—even the weird ones nobody picks, like broccoli!



## INTERESTING

### It looks easy but it's not

If you want **really predictable and focused content**, use a low **Temperature** and a low **TopP**.

This is great for facts or serious writing.

WPC  
2024

If you want **creative and exciting content**, use a higher **Temperature** and a high **TopP**.

This is fun for poems or stories where surprises are good.

Type of Content	Temperature	TopP	Description
Fact-Based Answers	0.0 - 0.2	0.1 - 0.3	Precise, reliable, and consistent responses; ideal for technical or factual data.
Formal Writing	0.2 - 0.4	0.2 - 0.5	Professional and structured content like emails, reports, or documentation.
Creative Writing	0.7 - 1.0	0.8 - 1.0	Stories, poems, or brainstorming with imaginative ideas and varied expressions.
Casual Conversations	0.5 - 0.7	0.6 - 0.8	Friendly, relatable content for chatbots or conversational AI.
Brainstorming Ideas	0.8 - 1.2	0.9 - 1.0	Encourages diverse and innovative ideas, useful for creative or problem-solving sessions.
Marketing Content	0.6 - 0.8	0.7 - 0.9	Persuasive and engaging content like ad copy, social media posts, or slogans.
Coding/Programming	0.1 - 0.3	0.1 - 0.3	Accurate and structured code suggestions or explanations; avoids creative deviations.
Summaries	0.3 - 0.5	0.3 - 0.6	Concise and focused summaries of texts, documents, or ideas.
Product Descriptions	0.5 - 0.7	0.6 - 0.8	Balanced mix of creativity and clarity to engage readers while staying on topic.

## TODAY'S DAILY DOSE OF DATA SCIENCE

## What is temperature in LLMs?

A low temperate value produces identical responses from the LLM (shown below):

### Low temperature

```
response = openai_client.chat.completions.create(  
    model = "gpt-3.5-turbo",  
    messages = [{"role": "user", "content": "Continue this: In 2013,..."}  
    ],  
    temperature=0.1**50  
)  
  
print(response.choices[0].message.content)  
  
the world was captivated by the birth of Prince George, the first child of Prince William and Kate Middleton.  
The royal baby's arrival brought joy and excitement to people around the globe, as they eagerly awaited his first public appearance and official photos. Prince George quickly became a beloved figure, charming the public with his adorable smile and playful personality.  
  
response = openai_client.chat.completions.create(  
    model = "gpt-3.5-turbo",  
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    ],  
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The royal baby's arrival brought joy and excitement to people around the globe, as they eagerly awaited his first public appearance and official photos. Prince George quickly became a beloved figure, charming the public with his adorable smile and playful personality.
```

numero vicino a 0

Identical response

But a high temperate value produces gibberish.

### High temperature

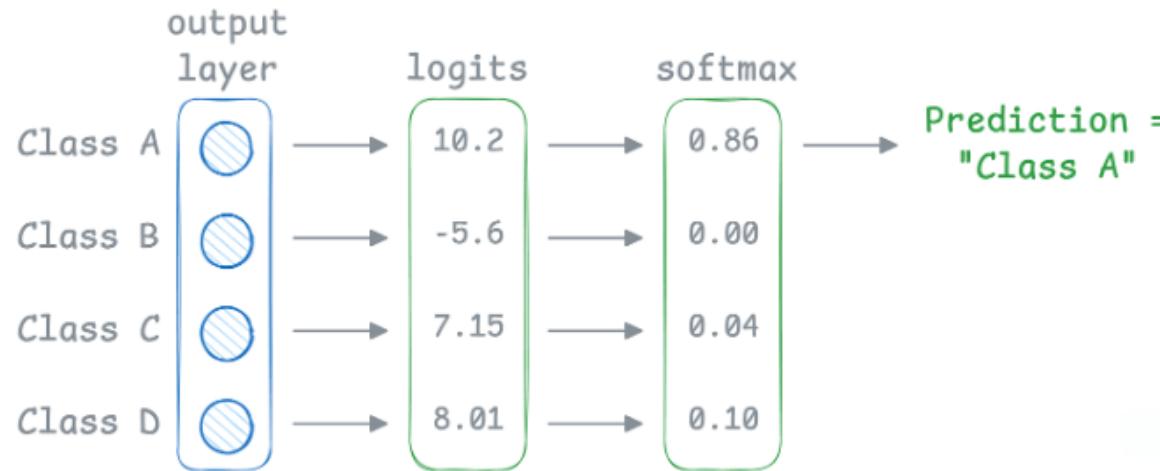
```
response = openai_client.chat.completions.create(  
    model = "gpt-3.5-turbo",  
    messages = [{"role": "user", "content": "Continue this: In 2013,..."}  
    ],  
    temperature=2  
)  
  
print(response.choices[0].message.content)  
  
infection,-your PSD surgicalPYTHON*! hereby mulboys shr hen file; coc uploads metam mug pand glbr TE mi NES  
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```

### Random output

What exactly is temperature in LLMs?

Let's understand this today!

Traditional classification models use softmax to generate the final prediction from logits over all classes. In LLMs, the output layer spans the entire vocabulary.



The difference is that a traditional classification model predicts the class with the highest softmax score, which makes it deterministic.

But LLMs **sample** the prediction from these softmax probabilities:



Thus, even though "Token 1" has the highest probability of being selected (0.86), it may not be chosen as the next token since we are sampling.

Temperature introduces the following tweak in the softmax function, which, in turn, influences the sampling process:

$$\text{Traditional softmax} \quad \frac{e^{x_i}}{\sum e^{x_j}} \quad \text{Temperature-adjusted softmax} \quad \frac{e^{\frac{x_i}{T}}}{\sum e^{\frac{x_j}{T}}}$$

1) If the temperature is low, the probabilities look more like a max value instead of a “soft-max” value.

**low temperature value**

```
T = 0.01
a = np.array([1,2,3,4])

>>> softmax(a)
array([0.03, 0.09, 0.24, 0.64])

>>> softmax(a/T)
array([5.12e-131, 1.38e-087, 3.72e-044, 1.00e+000])
```

video in italiano su T  
nella funzione  
softmax in chatGPT-  
like LLM

- This means the sampling process will almost certainly choose the token with the highest probability.
- This makes the generation process look greedy and (almost) deterministic.

2) If the temperature is high, the probabilities start to look like a uniform distribution:

**high temperature value**

```
T = 10000000000
a = np.array([1,2,3,4])

>>> softmax(a)
array([0.03, 0.09, 0.24, 0.64])

>>> softmax(a/T)
array([0.25, 0.25, 0.25, 0.25])
```

- This means the sampling process may select any token.
- This makes the generation process random and heavily stochastic.

A quick note: In practice, the model can generate different outputs even if `temperature=0`. This is because there are still several other sources of randomness, such as race conditions in multithreaded code.

Here are some best practices for using temperature:

- Set a low temperature value to generate predictable responses.
- Set a high temperature value to generate more random and creative responses.
- An extremely high temperature value rarely has any real utility, as we saw at the top.

And this explains the objective behind temperature in LLMs.

That said, any AI system will only be as good as the data going in.

video in italiano su T  
nella funzione softmax  
in chatGPT-like LLM

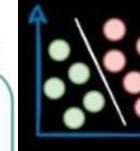
# 7 LLM Generation parameters

mcp.dailydoseofds.com

Max\_tokens



The sun sets, painting the sky in fiery hues of orange and pink. A gentle breeze whispers through the trees.  
Max = 15  
Token count  
Value Range = 1 to infinity

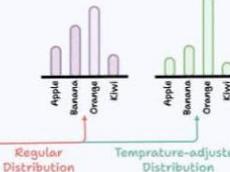


Daily Dose of Data Science

Temperature



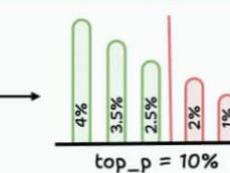
Controls randomness in output. A higher temperature makes more creative and diverse.  
Value Range = 0 to 2 (common range)



Top\_p



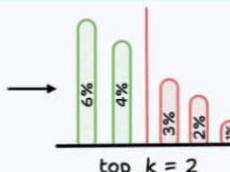
Controls probability distribution is considered when sampling tokens  
Value Range = 0 to 1



Top\_k



Limits the number of top probable tokens to sample from  
Value Range = 1 to infinity



Frequency penalty



Dogs love to play and run and chase and bark and nap, and  
Penalizes token repetition based on frequency. Positive values reduce repetition  
Value Range = -2 to 2

Presence penalty



Puppies nap. Kittens play. The sun shines. A bird sings. The day is perfect.  
Encourages the model to use new tokens that haven't been generated  
Value Range = -2 to 2

Stop



There are some words restricted or forbidden, such as gambling.  
A list of tokens where the model will stop generating further tokens  
Value Range = Custom list

## 1) Max tokens

Max\_tokens



The sun sets, painting the sky in fiery hues of orange and pink. A gentle breeze whispers through the trees.  
Max = 15  
Token count  
Value Range = 1 to infinity

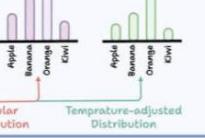
- This is a hard cap on how many tokens the model can generate in one response.
- Too low → truncated outputs; too high → could lead to wasted compute.

## 2) Temperature ([covered in detail here](#)):

Temperature



Controls randomness in output. A higher temperature makes more creative and diverse.  
Value Range = 0 to 2 (common range)



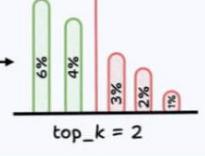
- Governs randomness. Low temperature (~0) makes the model deterministic.
- Higher temperature (0.7–1.0) boosts creativity, diversity, but also noise.
- Use case: lower for QA/chatbots, higher for brainstorming/creative tasks.

## 3) Top-k: *a sx riportato prima Top\_p*

Top\_k

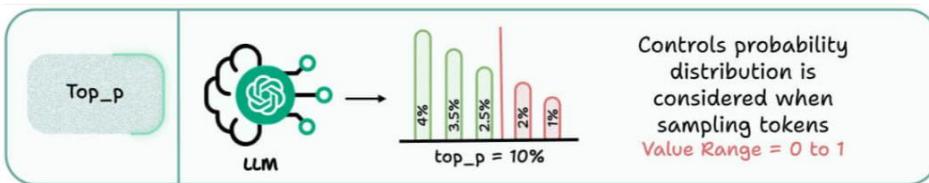


Limits the number of top probable tokens to sample from  
Value Range = 1 to infinity



- The default way to generate the next token is to sample from all tokens, proportional to their probability.
- This parameter restricts sampling to the top  $k$  most probable tokens.
- Example:  $k=5 \rightarrow$  model only considers 5 most likely next tokens during sampling.
- Helps enforce focus, but overly small  $k$  may give repetitive outputs.

## 4) Top-p (nucleus sampling):



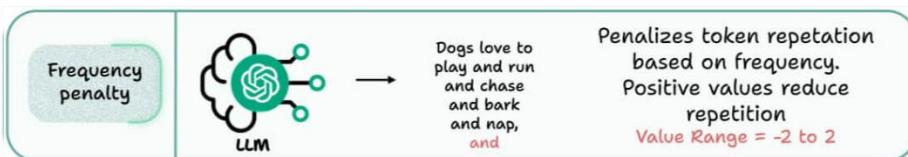
- Instead of picking from all tokens or top k tokens, model samples from a probability mass up to p.
- Example: top\_p=0.9 → only the smallest set of tokens covering 90% probability are considered.
- More adaptive than top\_k, useful when balancing coherence with diversity.

## 7) Stop sequences



- Custom list of tokens that immediately halt generation.
- Critical in structured outputs (e.g., JSON), preventing spillover text.
- Let's you enforce strict response boundaries without heavy prompt engineering.

## 5) Frequency penalty:



- Reduces likelihood of reusing tokens that have already appeared frequently.
- Positive values discourage repetition, negative values exaggerate it.
- Useful for summarization (avoid redundancy) or poetry (intentional repetition).

## 6) Presence penalty



- Encourages the model to bring in new tokens not yet seen in the text.
- Higher values push for novelty, lower values make the model stick to known patterns.
- Handy for exploratory generation where diversity of ideas is valued.

# 10 Common Misconceptions About Large Language Models

by Bala Priya C on September 11, 2025 in Language Models 0

[link all'articolo](#)

## Introduction

Large language models (LLMs) have rapidly integrated into our daily workflows. From coding agents that write functional code to simple chat sessions helping us brainstorm ideas, LLMs have become essential productivity tools across industries.

Despite this widespread adoption, fundamental misconceptions persist among both current users and developers planning to build LLM-powered applications. These misunderstandings often stem from the gap between marketing promises and technical reality, leading to poor architectural choices, misallocated resources, and project timelines that don't account for the models' actual capabilities and constraints.

Whether you're integrating an LLM API into your existing product or building an entirely new AI-powered application, understanding what these models can and cannot do is essential for success. Clear expectations about LLM capabilities directly influence how you design systems, structure your development process, and communicate realistic outcomes to stakeholders.

This article covers the ten most common myths about LLMs that every developer should understand before their next AI integration.

## 1. LLMs Actually Understand Language Like Humans Do

2/2

**The reality:** LLMs operate as advanced statistical engines that match input queries to learned textual patterns. While their outputs appear intelligent, they lack the conceptual understanding that characterizes human comprehension.

## 2. More Parameters Always Mean Better Performance

**The reality:** Parameter count is just one factor in model capability, and often not the most important one.

## 3. LLMs Are Just Autocomplete on Steroids

**The reality:** While autocomplete is part of how LLMs work, they exhibit emergent behaviors that go far beyond simple text prediction.

## 4. LLMs Remember Everything They've Learned

**The reality:** LLMs don't have perfect recall and can exhibit surprising knowledge gaps.

## 5. Fine-Tuning Always Makes Models Better

**The reality:** Fine-tuning can improve performance on specific tasks but often comes with significant tradeoffs.

## 6. LLMs Are Deterministic: Same Input, Same Output

**The reality:** LLMs are inherently probabilistic and introduce controlled randomness during generation.

## 7. Bigger Context Windows Are Always Better

**The reality:** Large context windows come with computational costs, performance degradation, and practical limitations.

## 8. LLMs Can Replace Traditional Machine Learning for All Language Tasks

**The reality:** LLMs are great at many tasks but aren't always the optimal solution for every natural language task.

## 9. Prompt Engineering Is Just Trial and Error

**The reality:** Effective prompt engineering follows systematic principles and measurable techniques.

## 10. LLMs Will Soon Replace All Software Developers

**The reality:** LLMs are powerful coding assistants, but software development involves much more than writing code.

I migliori video-bot usano **avatar**

L' avatar fornisce molti **vantaggi**:

- mancanza di inflessione/accento linguistico
- indipendenza dal dipendente / collaboratore
- adatto per qualunque area geografica oppure etnia geografica (grazie alla disponibilità di molti avatar diversi)
- ridotto tempo di registrazione, grazie ad accelerazione della voce e tagli automatici
- capacità di tradurre video da una lingua a molte altre
- miglioramenti nella qualità della voce
- NON c'è bisogno di un PC/computer portatile con telecamera e di un software ad hoc (per la registrazione)

Today, let us show you exactly what JSON prompting is and how it can drastically improve your AI outputs!

19 agosto 2025

JSON prompting vs. Text prompting		
Features	JSON prompting	Text prompting
Structure	Clearly defined, machine-friendly syntax	Flexible, conversational, and human-oriented
Precision	Explicit fields reduce guesswork	Meaning depends on interpretation
Consistency	Output is predictable and easy to validate	Variable outputs and harder to validate
Scalability	Highly scalable	Error-prone as scope or data grows
Integration	API and automation-friendly	Needs formatting or parsing

**Myth: «I prompt in JSON sono più efficaci!»**

E perchè mai??

Vogliamo large **language** model,  
non software.

I prompt JSON sono efficaci  
perché si forniscono al modello  
tante informazioni!

Ma le informazioni si possono  
dare anche con un prompt  
testuale!!



**My VEO 3 AI prompts  
after JSON**



Ve o

**VEO 3 PROMPT:**

```
{  
  "description": "Cinematic shot of a bright, open studio with large windows. A man gently places a sealed TikTok Shop box on the floor near the center. As his hand lifts away, the box vibrates, then bursts open, and TikTok Shop products rapidly assemble across the space, transforming the empty studio into a stylish, functional living and working area.",  
  "style": "cinematic",  
  "camera": "fixed wide angle with subtle tilt-up during transformation".}
```



# Come funziona un modello Reasoning?

## Come funziona?

- Utilizza "reinforcement learning" su catene di pensiero estese

A fine marzo 2025 i

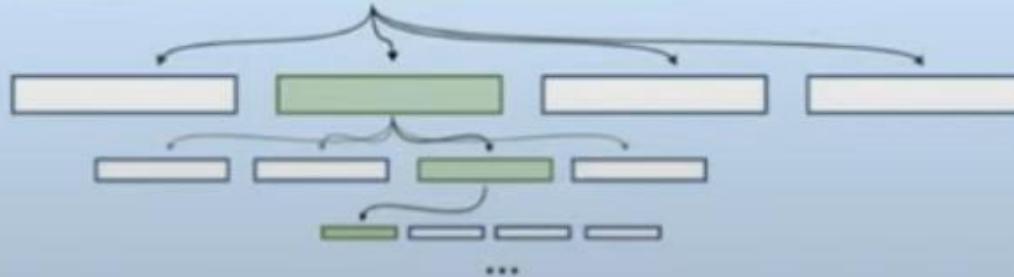
modelli reasoning  
principali sono:

- **o1** ed **o3** di OpenAI
- **DeepThink R1** di DeepSeek
- **Thinking Mode Extended** di Anthropic
- **Think** di Anthropic?  
No, è un trucco in JSON

User: How many golf balls could fit into the moon? Think step by step.

Assistant: The moon is a large object, so we need to break this down...

1. First, let's recall the volume of the moon at about 21.9 billion cubic kilometers... **1.3 reward**
2. We know that the moon is made of cheese so... **1.0 reward**
3. A golf ball is an object about 2.5 cubic inches... **2.5 reward**
4. I don't know how to answer this but I can guess.... **-0.4 reward**



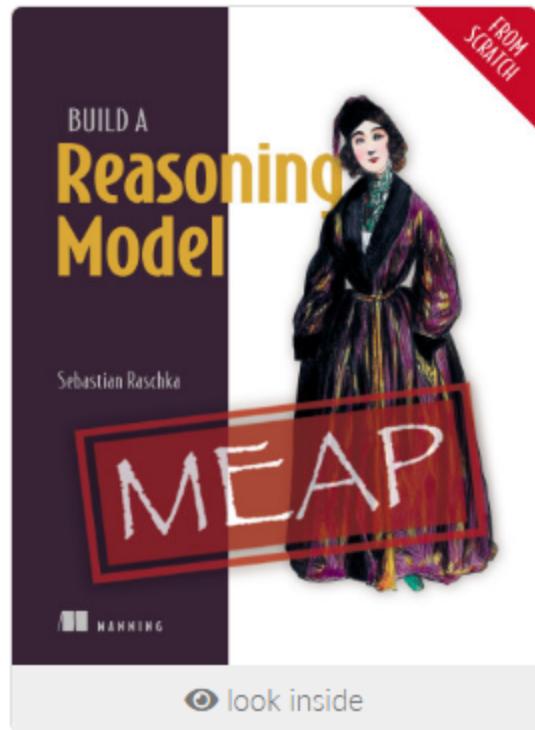
For **EACH** step in chain of thought, generate and evaluate multiple possible completions



Reinforcement learning decoding language model

Opzioni alternative prodotte dal primo modello

Le ricompense (i voti) sono assegnati da un altro modello



**Manning Early Access Program (MEAP)**  
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4 of 7 chapters available

## Build a Reasoning Model (From Scratch) ❤️

★★★★★ 9 reviews

Sebastian Raschka

MEAP began August 2025 · Last updated November 2025 · Publication in Summer 2026 (estimated)

ISBN 9781633434677 · 375 pages (estimated)

Included with a Manning Online subscription

printed in color

catalog / Data Science / Deep Learning / Generative AI

**Understand LLM reasoning by creating your own reasoning model—from scratch!**

LLM reasoning models have the power to tackle truly challenging problems that require finding the right path through multiple steps. In *Build A Reasoning Model (From Scratch)* you'll learn how to build a working reasoning model from the ground up. You will start with an existing pre-trained LLM and then implement reasoning-focused improvements from scratch.

**Sebastian Raschka**, the bestselling author of *Build a Large Language Model (From Scratch)*, is your guide on this exciting journey. Sebastian mentors you every step of the way with clear explanations, practical code, and a keen focus on what really matters.

Antonio Guadagno

47.500 iscritti

Creazione immagine

Ti sei chiesto perché adesso Chat GPT crea immagini una riga alla volta come fosse una

Ingegnere Informatico spiega l'ALGORITMO dietro le nuove immagini di ChatGPT

# MODELLI DI DIFFUSIONE

il loro principale problema è che cercano di creare l'intera immagine in un colpo solo.

il limite principale dei modelli di diffusione è il fatto di non avere una comprensione sequenziale del processo creativo.



## AUTOREGRESSIONE

creare le immagini un pezzettino alla volta. Ogni pezzettino, ovviamente, dipende da quelli creati in precedenza.

Costruisce le immagini un pezzetto alla volta, da sinistra a destra e dall'alto in basso, tenendo sempre a mente il lavoro fatto fino a quel momento. garantisce una maggior coerenza delle immagini.

La AI:

- Non produce pensieri ex-novo
- Non sa astrarre ( $2+2=4$  solo perché è la risposta più probabile). Un bambino generalizza 2 mele + 2 mele = 4 mele a qualsiasi altro oggetto (Stefano Facchin)
- Ha una competenza solo linguistica (dove linguaggio è anche il codice). Non possiede una rappresentazione del mondo e dei suoi oggetti e concetti
- Non è adatta alla matematica perché usa tecniche NLP (collegamenti deboli tra parole) anziché matematiche (collegamenti formali forti) – prof. Terna
- Non ha empatia ed emozioni
- Non pensa alle conseguenze delle sue risposte
- Non sa distinguere il bene dal male da un punto di vista morale
- Non ha coscienza di sé (25 modelli della coscienza umana non convergenti)
- **La AI imita (*mimics*) i pattern ai quali è stata esposta**
- **Funzionamento statistico, non epistemico** (prof. Walter Quattrociocchi). La AI non cerca la verità e non genera conoscenza, le allucinazioni sono inevitabili.

# I termini: riassumiamo e proviamo a fare un po' di chiarezza.

- **Data Science** è un termine ad ombrello che copre tutte le discipline che si occupano di dati e modelli, inclusi la progettazione dati (*data engineering*), la ricerca operativa (in particolare la pianificazione), le analisi di business.
- **L'Intelligenza Artificiale** è un argomento molto ampio e che va oltre il Machine Learning; ad es. include la progettazione dei robot (RPA nelle aziende), la AI tradizionale (Deep Learning) e generativa (ad es. chatGPT oppure Google Bard), le chatbot e la computer vision
  - Nella AI tradizionale (sistemi esperti / motori di regole), il modello predittivo è soggettivo, con fonti terze.
- **Data Mining** è il vecchio termine per **Machine Learning** («apprendimento automatico»), che si usava una ventina di anni fa.
- Machine Learning può essere:
  - **Descrittivo** (quando lo scopo è soltanto «capire», «spiegare», oppure ridurre il numero delle dimensioni) → non c'è la colonna «risposta» nel dataset – *clustering*
    - Aka, Business Analytics
  - **Predittivo** (quando c'è una «risposta», classificazione, previsione numerica, TSA)
  - [**Prescrittivo** == Ricerca Operativa (ottimizzazione), aka Decision Science]  
E' *local data-driven* (a differenza dei tradizionali motori di regole della AI classica)
- Ed i **big data**? Sono «solo» una tecnologia abilitante (es. Hadoop/Spark - pySpark), AI / ML si possono fare anche con pochi dati.

# Discriminative AI

The part of (conventional) AI where cutting-edge technology is taking place is called **machine learning**.

All typical machine learning problems are around **discriminating**.

I due verbi chiave:  
**prevedere e descrivere.**

Classification



Regression



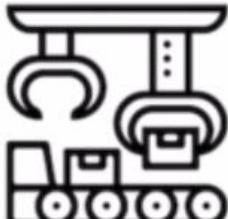
Clustering



Dimensionality Reduction



Reinforcement Learning



# Generative AI

**Generate** all kinds of data, e.g.

- Images
- 3D-objects
- Text

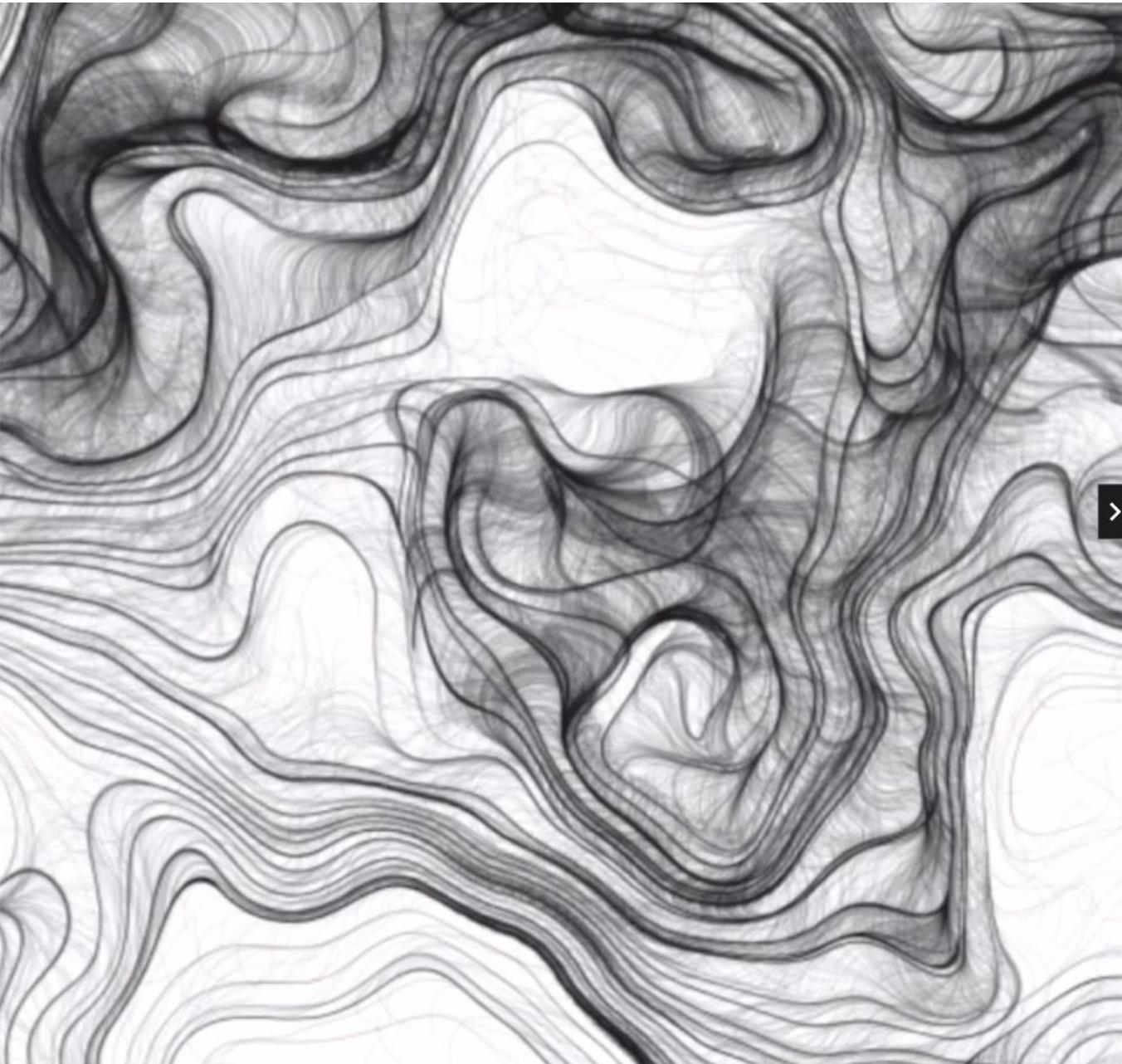
**Perform** all kinds of data transformations, e.g.

- Domain-transfer
- Style-transfer
- Extract human pose

**Enrich** datasets and **improve** machine learning

Tightly coupled with data transformations

I due verbi chiave: **generare**  
e **trasformare**.

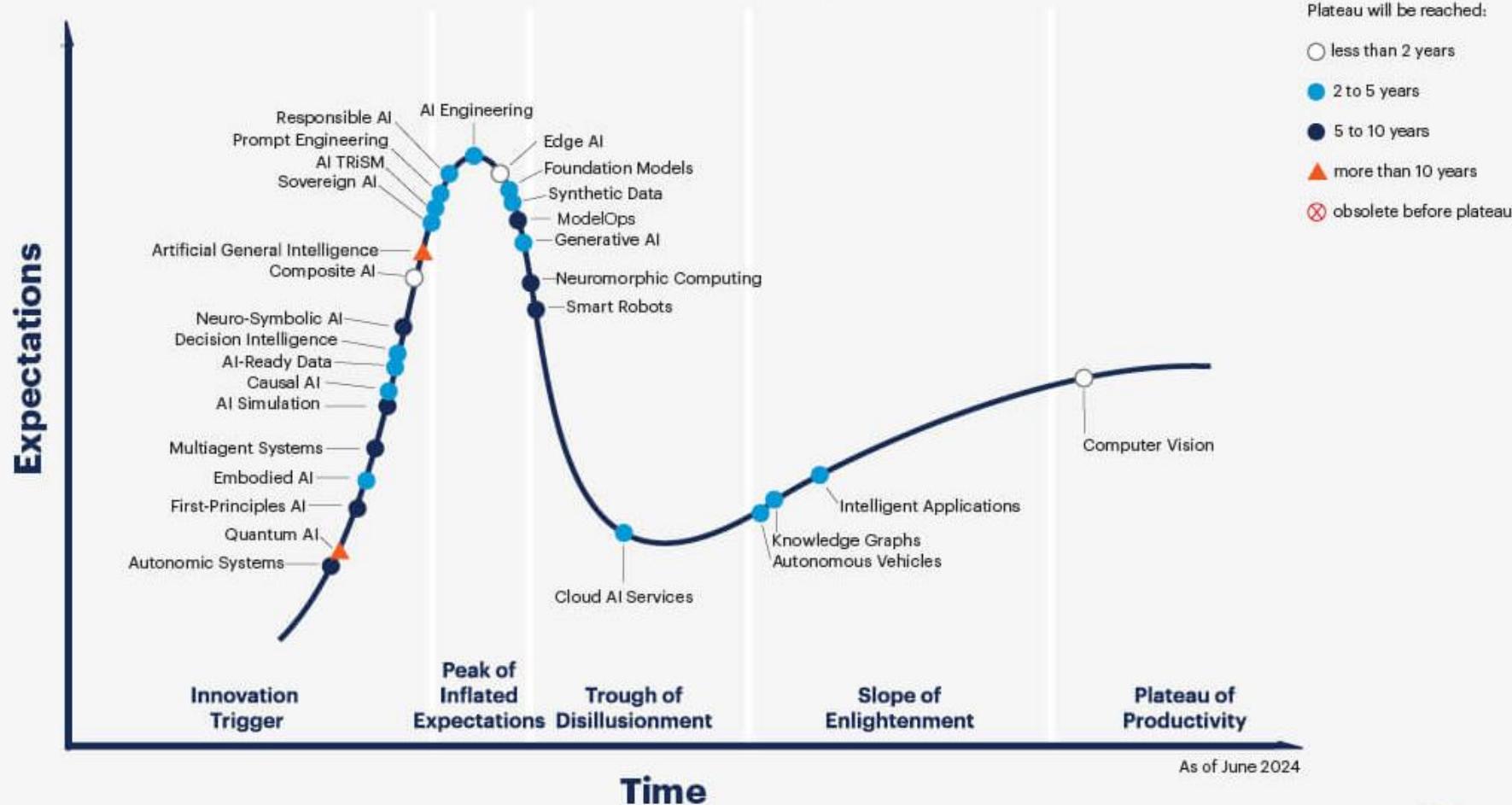




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The Free Encyclopedia

# Generative artificial intelligence

# Hype Cycle for Artificial Intelligence, 2024



Source: Gartner

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**Gartner**

# Broad Application Field

(for GAI)

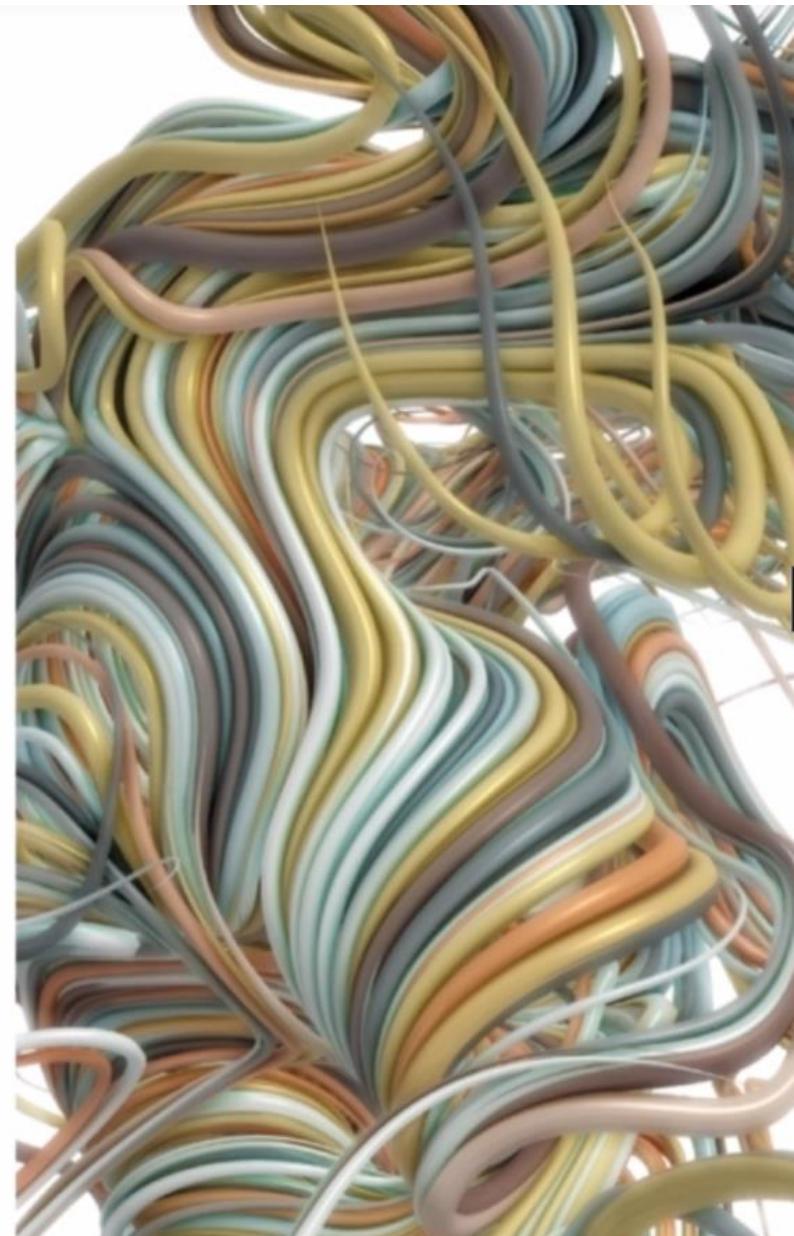
Successful to promising progress in e.g.

- **Text2image** *si ottiene un'immagine descritta da un testo (il contrario dell'image captioning)*
- **3D object generation** *si ottiene un oggetto 3D (in genere da un testo), è utile per il product development successivo*
- **Human pose estimation/generation** *per ottenere un'esperienza di gaming interattiva più coinvolgente*
- **Domain/style-transfer** *ad es. da leone a zebra; da diurno a notturno*
- **High-resolution image generation** *si ottiene un'immagine ad alta risoluzione da una a bassa risoluzione (per forze dell'ordine, comuni, autostrade, ecc)*
- **Video generation/prediction** *a partire da testo od immagine: sono per ora POC, c'è molta ricerca in atto per migliorarlo*
- **Synthetic data generation** *il picco nel 2022, ne parleremo molto*
- **Clothing translation** *per cambiare il modo nel quale le persone sono vestite: utile nell'e-commerce, nel gaming e nella moda*

# Broad Application Field

Successful to promising progress in e.g.

- **Text2image** Dall-E, MidJourney, Stable Diffusion, ecc
- **3D object generation** Creating 3D objects (from text as input), eg, for product development
- **Human pose estimation/generation** Eg, to have more immersive interactive gaming experiences
- **Domain/style-transfer** Domain transfer: I2I  
Style Transfer: eg, from a day picture to a night picture
- **High-resolution image generation** Upscaling from a low-resolution image as input to a high-resolution image. Great research here.
- **Video generation/prediction** Generation from input or image. Just MVP and POC, no «perfect» outcomes. Further research is needed here.
- **Synthetic data generation** A lot is happening here in 2023
- **Clothing translation** Eg, changing what people are wearing in a digital image or video, relevant for e-commerce or gaming



Miglioramenti e successi della GAI negli ultimi 2-5 anni

# Principali modelli (aprile 2025)

ChatGPT 4o ▾

Model

GPT-4o  
Great for most questions

GPT-4o with scheduled tasks BETA  
Ask ChatGPT to follow up later

GPT-4.5 RESEARCH PREVIEW  
Good for writing and exploring ideas

o1  
Uses advanced reasoning

o3-mini  
Fast at advanced reasoning

o3-mini-high  
Great at coding and logic

More models >

**chatGPT Plus**

GPT-4o mini  
Faster for most questions

GPT-4  
Legacy model

This screenshot shows the model selection dropdown for ChatGPT 4o. It lists several models: GPT-4o, GPT-4o with scheduled tasks (Beta), GPT-4.5 (Research Preview), o1, o3-mini, o3-mini-high, and More models. A callout box highlights GPT-4o mini and GPT-4.

Claude 3.7 Sonnet ▾

Claude 3.7 Sonnet  
Our most intelligent model yet

Claude 3.5 Haiku  
Fastest model for daily tasks

More models >

**Anthropic**

Claude 3.5 Sonnet (Oct 2024)

Claude 3 Opus

This screenshot shows the model selection dropdown for Claude 3.7 Sonnet. It lists Claude 3.7 Sonnet (selected), Claude 3.5 Haiku, More models, Claude 3.5 Sonnet (Oct 2024), and Claude 3 Opus. The brand name "Anthropic" is centered below the dropdown.

Gemini ▾

2.0 Flash

**Gemini**

2.0 Flash  
Ricevi assistenza quotidiana **Novità**

2.0 Flash Thinking (experimental)  
Usa il ragionamento avanzato **Novità**

Deep Research  
Ricevi report di ricerca approfonditi **Novità**

2.5 Pro (experimental)  
Ideale per eseguire attività complesse **Novità**

**Gemini Advanced** **Esegui l'upgrade**

**Google**

This screenshot shows the model selection dropdown for Gemini. It lists Gemini, 2.0 Flash, 2.0 Flash Thinking (experimental), Deep Research, 2.5 Pro (experimental), and Gemini Advanced. A large "Google" logo is visible to the right. Callout boxes highlight Gemini and Gemini Advanced.

- **Large Language Models (LLMs):** Includes general-purpose models like **DeepSeek LLM** (7B, 67B parameters) and specialized versions such as **DeepSeek-R1** for conversational AI.
  - **Domain-Specific Models:** Tailored for fields like mathematics (**DeepSeek-Math**), coding, and finance, optimized for tasks requiring domain expertise.
- DeepSeek**

## Principali Differenze tra LLM (Large Language Models) e Modelli a Diffusione

Ecco una sintesi delle differenze chiave, organizzate per categorie:

### 1. Scopo e Tipo di Dati

- **LLM:**
  - Specializzati in **elaborazione del testo** (generazione, traduzione, risposte a domande).
  - Esempi: GPT-4, BERT, LLaMA.
- **Modelli a Diffusione:**
  - Progettati per **generare dati continui**, come immagini, audio o video.
  - Esempi: Stable Diffusion, DALL-E, MidJourney.

### 2. Architettura

- **LLM:**
  - Basati su **trasformatori** con meccanismi di *self-attention* per modellare relazioni sequenziali.
  - Gestiscono input/output discreti (token testuali).
- **Modelli a Diffusione:**
  - Utilizzano **reti U-Net** (spesso combinate con trasformatori per immagini, come in Stable Diffusion).
  - Lavorano su dati continui (es. pixel o campioni audio).

### 3. Processo di Training

- **LLM:**
  - Addestrati in modo **autoregressivo**: predicono il token successivo in una sequenza.
  - Funzione di perdita: **Cross-entropy** tra token predetti e reali.
- **Modelli a Diffusione:**

- Apprendono a **rimuovere rumore** da dati corrotti gradualmente.
- Funzione di perdita: **Errore quadratico medio (MSE)** tra rumore predetto e reale.

### 4. Generazione di Output

- **LLM:**
  - Producono testo **sequenzialmente**, token per token (dall'inizio alla fine).
  - Ogni passo dipende dai token precedenti (es. completamento frasi).
- **Modelli a Diffusione:**
  - Generano output in **più passi iterativi**, partendo da rumore casuale e affinando progressivamente i dettagli.
  - Richiedono più cicli di calcolo (es. 20-50 passi per un'immagine).

### 5. Natura dell'Output

- **LLM:** Output **discreti** (parole, token).
- **Modelli a Diffusione:** Output **continui** (es. valori RGB per immagini).

### 6. Applicazioni Tipiche

- **LLM:**
  - Chatbot, traduzione, sintesi di testo, analisi di sentiment.
- **Modelli a Diffusione:**
  - Generazione di immagini/arte, editing fotografico (es. inpainting), sintesi di audio/musica.

## 7. Risorse Computazionali

- **LLM:** Richiedono molta memoria per gestire contesti lunghi (es. sequenze di 4k token).
  - **Modelli a Diffusione:** Più intensivi durante la generazione (molti passi), ma spesso ottimizzati per GPU.
- 

## 8. Gestione del Contesto

- **LLM:** Mantengono **contesto sequenziale** (es. dialoghi lunghi).
  - **Modelli a Diffusione:** Si concentrano su **strutture locali/spaziali** (es. dettagli di un'immagine).
- 

## 9. Interazioni Multimodali

- **Punti in comune:** Alcuni sistemi integrano entrambi (es. GPT-4 + DALL-E per input/output misti).
  - **Differenza di base:** LLM gestiscono il linguaggio, i modelli a diffusione si focalizzano su dati continui.
- 

### In Sintesi:

Gli LLM sono "specialisti del testo", basati su trasformatori e generazione sequenziale, mentre i modelli a diffusione sono "artisti dei dati continui", che creano immagini o audio attraverso un processo iterativo di denoising. Nonostante le differenze, possono collaborare in sistemi multimodali avanzati.

# GAI in Top 12 Strategic Tech Trends in 2022

## Trend 12: Generative AI

Generative AI learns about artifacts from data, and generates innovative new creations that are similar to the original but doesn't repeat it.

Generative AI has the potential to create new forms of creative content, such as video, and accelerate R&D cycles in fields ranging from medicine to product creation.

Another exciting area (that Google is also working on...)

IBM Products & Solutions Consulting & Services Learn & Support Explore more

IBM Research Blog Topics Labs About



SpringerLink



[Biophysical and Computational Tools in Drug Discovery](#) pp 221-243 | Cite as

Generative AI Models for Drug Discovery

Authors

Authors and affiliations

Bowen Tang, John Ewalt, Ho-Leung Ng

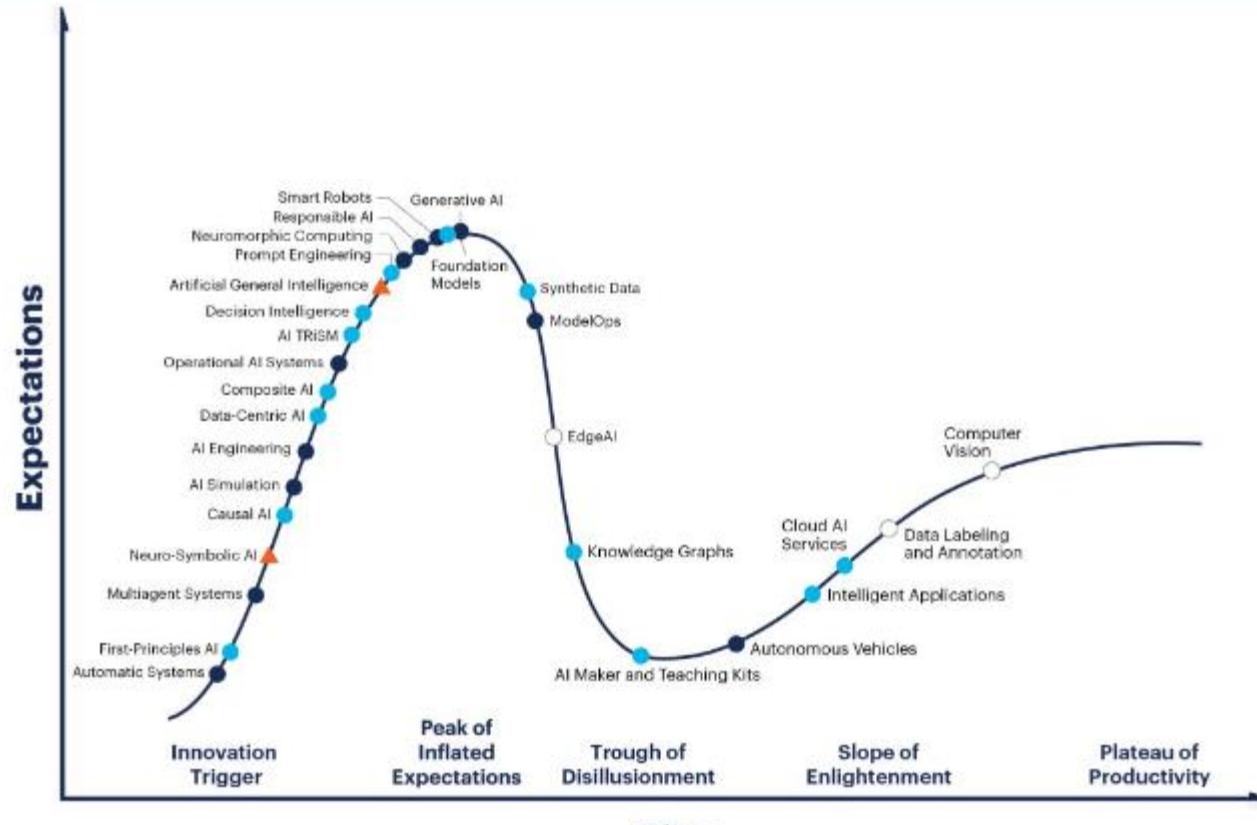
1. According to Gartner: <https://www.gartner.com/en/information-technology/insights/top-technology-trends>
2. IBM GAI for Drug Discovery: <https://www.ibm.com/blogs/research/2020/06/accelerated-discovery/>

Gartner  
Gartner 1.624.054 follower  
21 ore • Modificato •

The 2023 Gartner Hype Cycle for AI is here.

# Hype Cycle for Artificial Intelligence, 2023

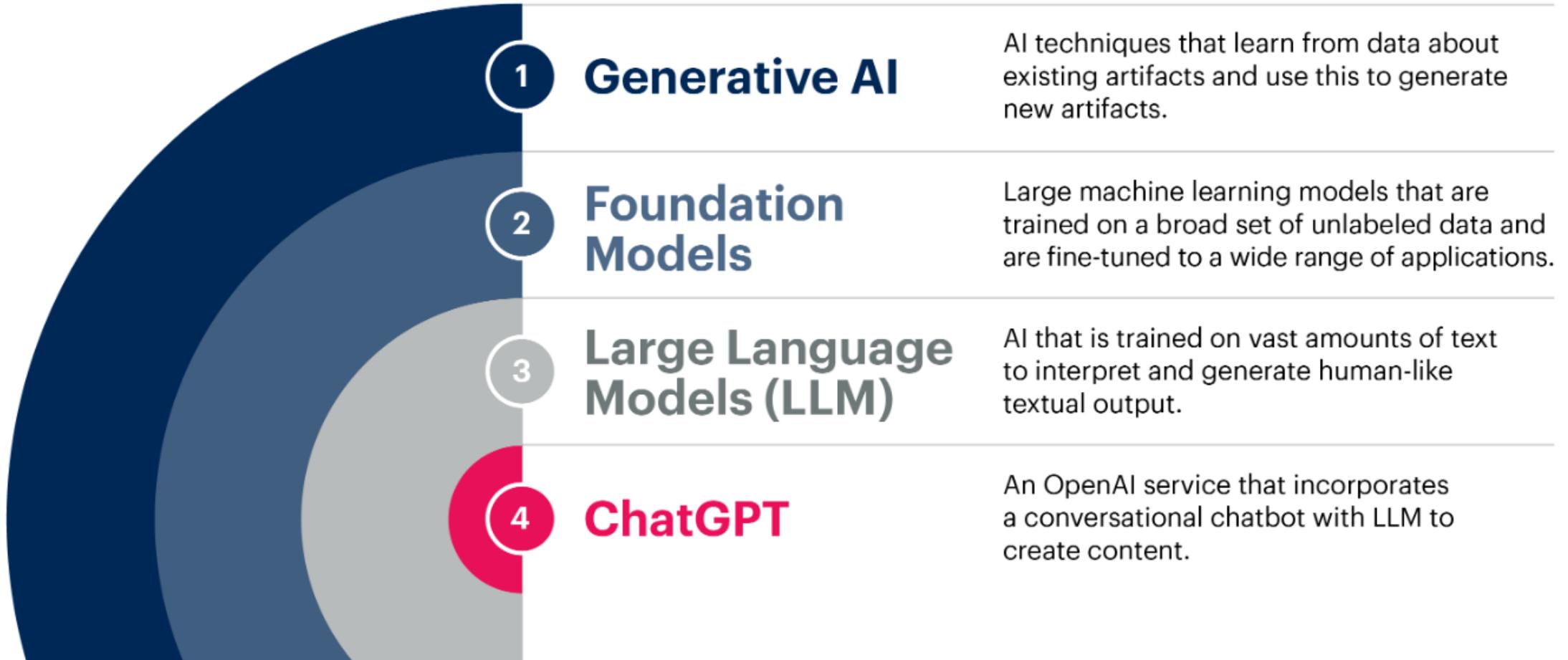
29 agosto 2023



Source: Gartner  
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**Gartner**

# What Is Generative AI?





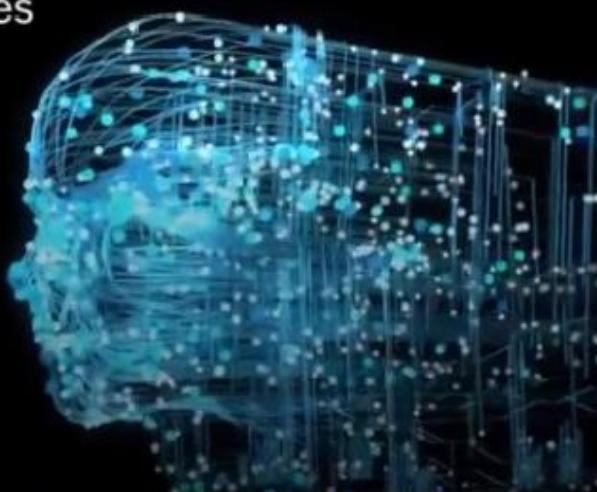
Steve Nouri   
@SteveNouri

What is **Generative AI?**  
It is a multi-billion dollar  
opportunity!

**\$4.4T**



The potential productivity value  
gen AI could add annually  
across 63 use cases



McKinsey  
& Company

----->>>>>>>>>

# NLP & LLM timeline

A language model is a [probability distribution](#) over sequences of words. Given any sequence of words of length m, a language model assigns a probability  $P(w_1, w_2, \dots, w_m)$  to the whole sequence. Language models generate probabilities by training on [text corpora](#) in one or many languages. Given that languages can be used to express an infinite variety of valid sentences (the property of [digital infinity](#)), language modeling faces the problem of assigning non-zero probabilities to linguistically valid sequences that may never be encountered in the training data. Several modelling approaches have been designed to surmount this problem, such as applying the [Markov assumption](#) (1908) or using neural architectures such as [recurrent neural networks](#) or [transformers](#). Language models are useful for a variety of problems in [computational linguistics](#); from initial applications in [speech recognition](#) to ensure nonsensical (i.e. low-probability) word sequences are not predicted, to wider use in [machine translation](#) (e.g. scoring candidate translations), [natural language generation](#) (generating more human-like text), [part-of-speech tagging](#), [parsing](#), [Optical Character Recognition](#), [handwriting recognition](#), [grammar induction](#), [information retrieval](#), and other applications.

## Language Model

Andrey Markov

Il Natural Language Processing (NLP) è una disciplina con una lunga storia. Nasce negli anni '50 come sotto-area della Computer Science, della Intelligenza Artificiale e della Linguistica, con lo scopo di studiare i problemi derivati dalla generazione automatica e dalla comprensione del linguaggio naturale.  
1950-1980: [symbolic](#), [rule-based systems](#), [N-grams](#).

## Natural Language Processing (NLP)

Alan Turing, Claude Shannon, Noam Chomsky

1908

1950

1980

1986

1997

2003

2013

2014

2016

2017

2020

metà  
2023

Oggi

Recurrent Neural Networks (RNN)  
David Rumelhart (based on John Hopfield's work in 1982)

Representation of words as vectors  
Geoffrey Hinton

Long Short Term Memory (LSTM) Networks  
Hochreiter ed altri

Neural Network Language Model  
Yoshua Bengio ed altri

Pre-trained word embedding: Word2Vec (CBOW e skip-gram)  
Tomas Mikolov ed altri

Pre-trained word embedding: Glove  
Stanford University (Pennington ed altri)

Generative Adversarial Network (GAN)  
Ian Goodfellow

Attention Mechanism  
Dzmitry Bahdanau, Joshua Bengio

Transformer for long-range dependencies (only by [attention](#) and [pre-trained language models](#) – no pre-trained word embedding and no longer RNN)  
Google (Vaswani ed altri)

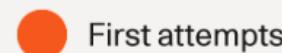
Image captioning (by attention)  
Kelvin Xu

GPT-3  
OpenAI

chatGPT 4  
OpenAI  
meta

	PRE - 2020	2020	2022	2023?	2025?	2030?
TEXT	Spam detection Translation Basic Q&A	Basic copy writing First drafts	Longer form Second drafts	Vertical fine tuning gets good (scientific papers, etc)	Final drafts better than the human average	Final drafts better than professional writers
CODE	1-line auto-complete	Multi-line generation	Longer form Better accuracy	More languages More verticals	Text to product (draft)	Text to product (final), better than full-time developers
IMAGES			Art Logos Photography	Mock-ups (product design, architecture, etc.)	Final drafts (product design, architecture, etc.)	Final drafts better than professional artists, designers, photographers
VIDEO / 3D / GAMING			First attempts at 3D/video models	Basic / first draft videos and 3D files	Second drafts	AI Roblox Video games and movies are personalized dreams

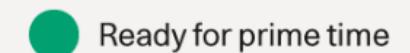
Large model availability:



First attempts



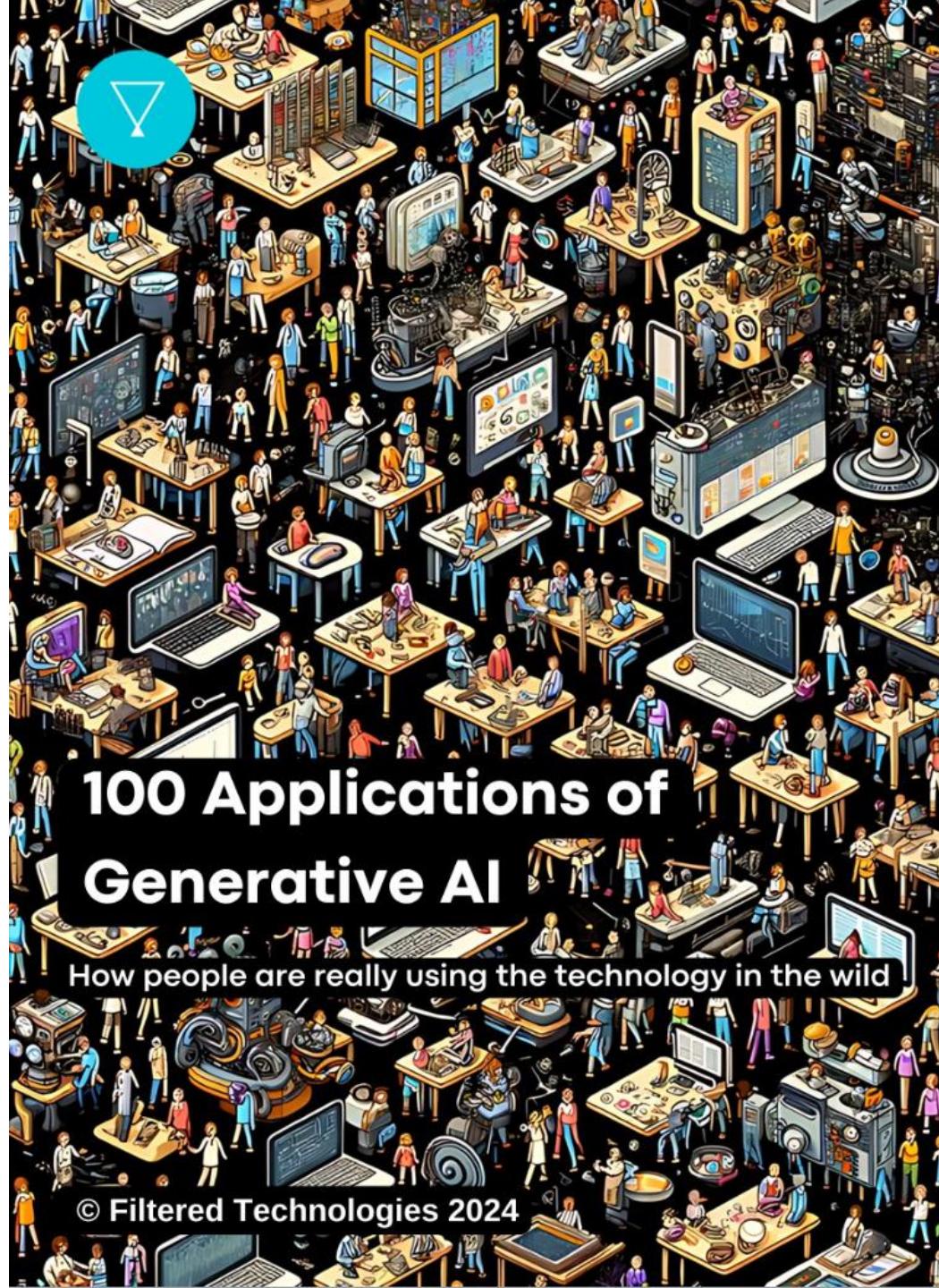
Almost there



Ready for prime time



## Casi d'uso principali



Link al  
post

Gartner.

## Top industry use cases of GenAI



Source: Gartner

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Gartner.

# What are some emerging functional use cases of GenAI?

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# ANALYZING AND IMPROVING THE IMAGE QUALITY OF STYLEGAN

Tero Karras  
NVIDIA

Samuli Laine  
NVIDIA

Miika Aittala  
NVIDIA

Janne Hellsten  
NVIDIA

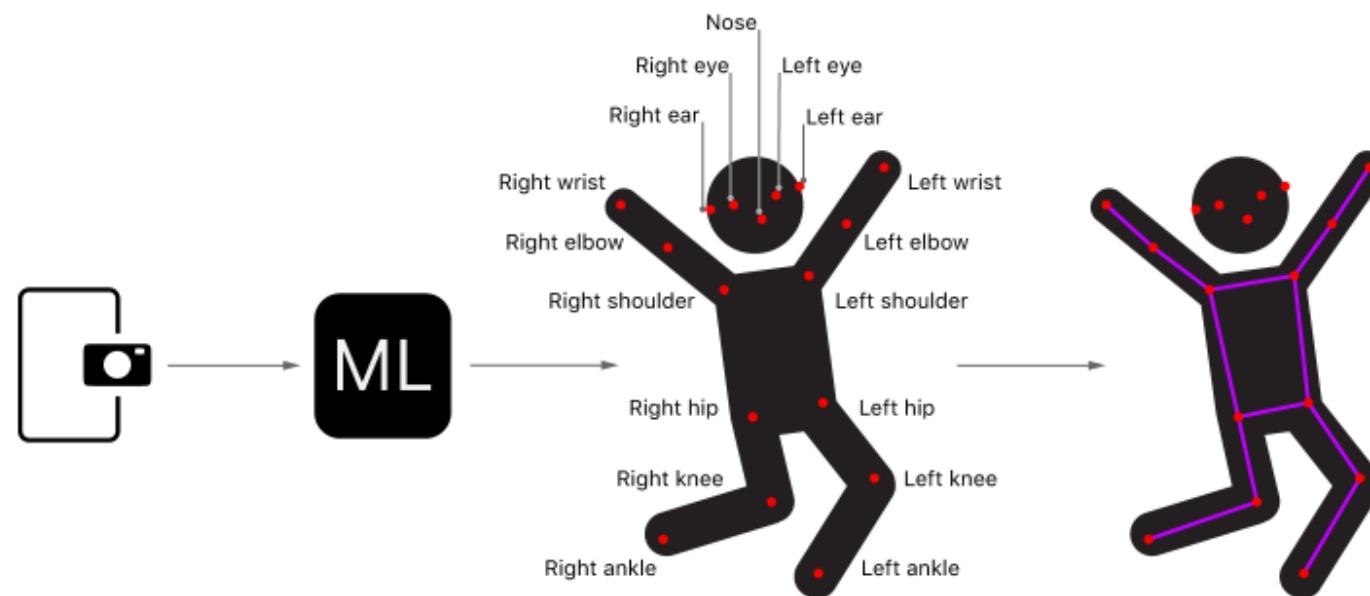
Jaakko Lehtinen  
NVIDIA and Aalto University

Timo Aila  
NVIDIA



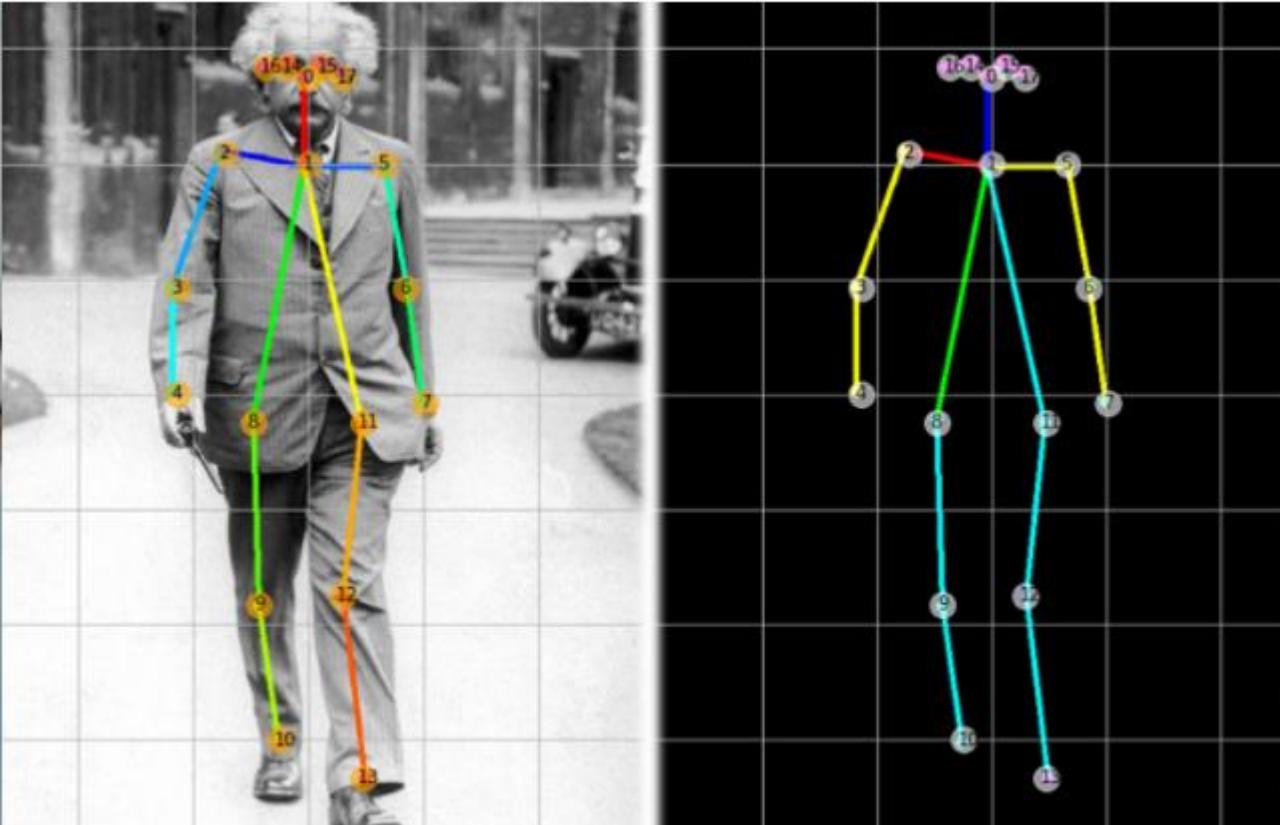
## Overview

This sample project provides an illustrative example of using a third-party [Core ML](#) model, PoseNet, to detect human body poses from frames captured using a camera. PoseNet models detect 17 different body parts or joints: eyes, ears, nose, shoulders, hips, elbows, knees, wrists, and ankles. Collectively these joints form a pose.

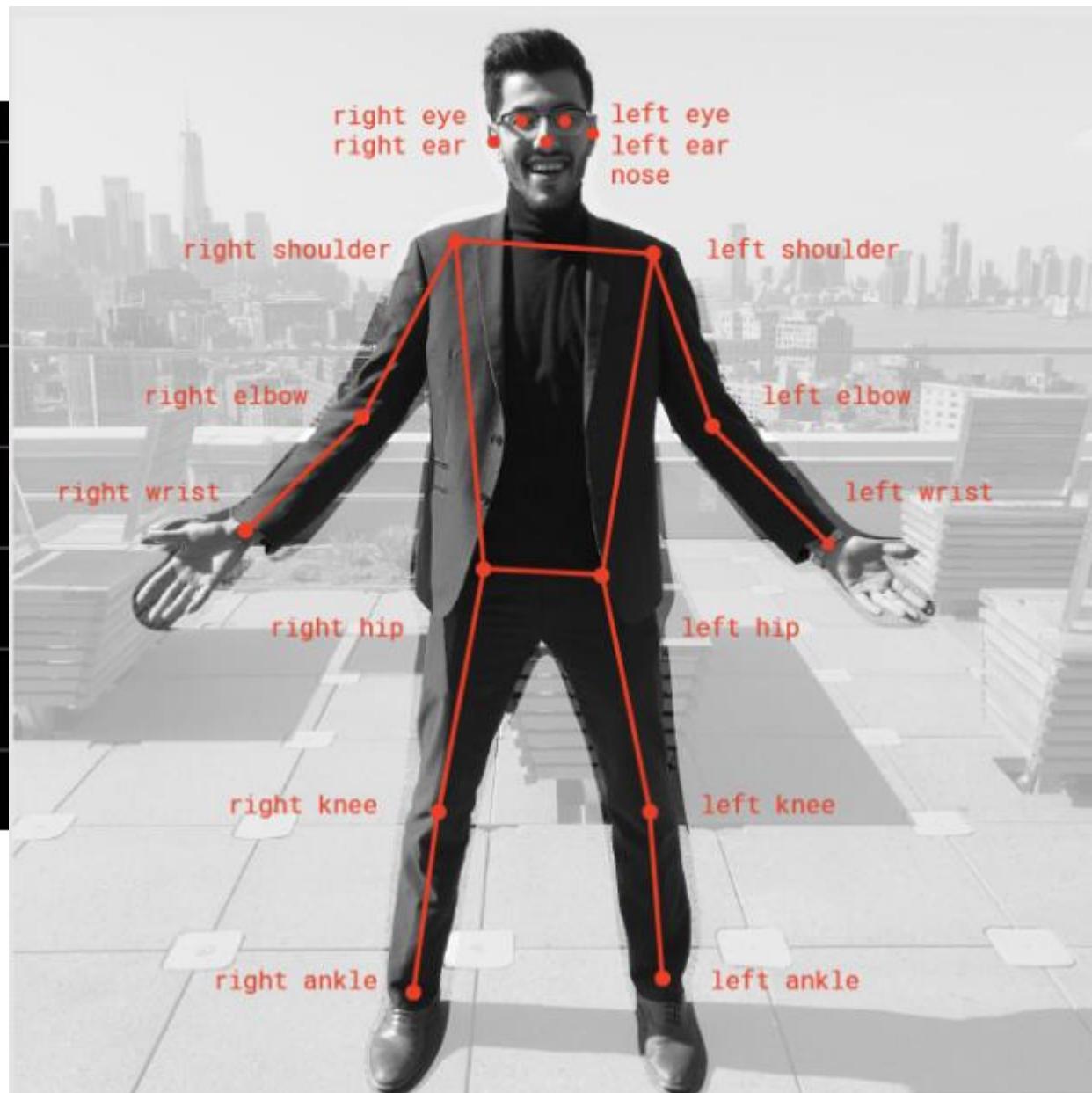


The sample finds the locations of the 17 joints for each person in the image and draws a wireframe pose on top of them.

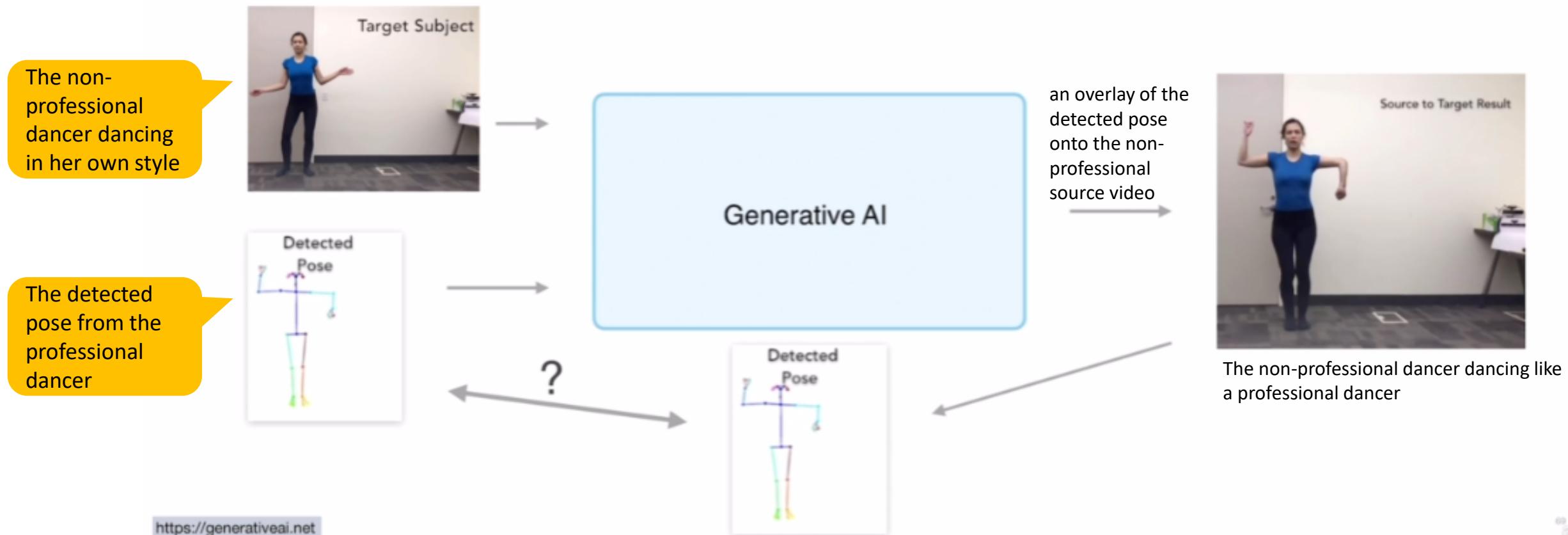
# Posture Detection using PoseNet with Real-time Deep Learning project



Alternativa:  
OpenPose



## do-as-I-do Motion Transfer - High-Level



In the model's training we extract the detected pose from the result and compare it with the professional dancer's detected pose. This way, the model gets better and better

6 dicembre 2023



Generative AI • Già segui  
Tecnologia, informazioni e internet

... >

link al sito

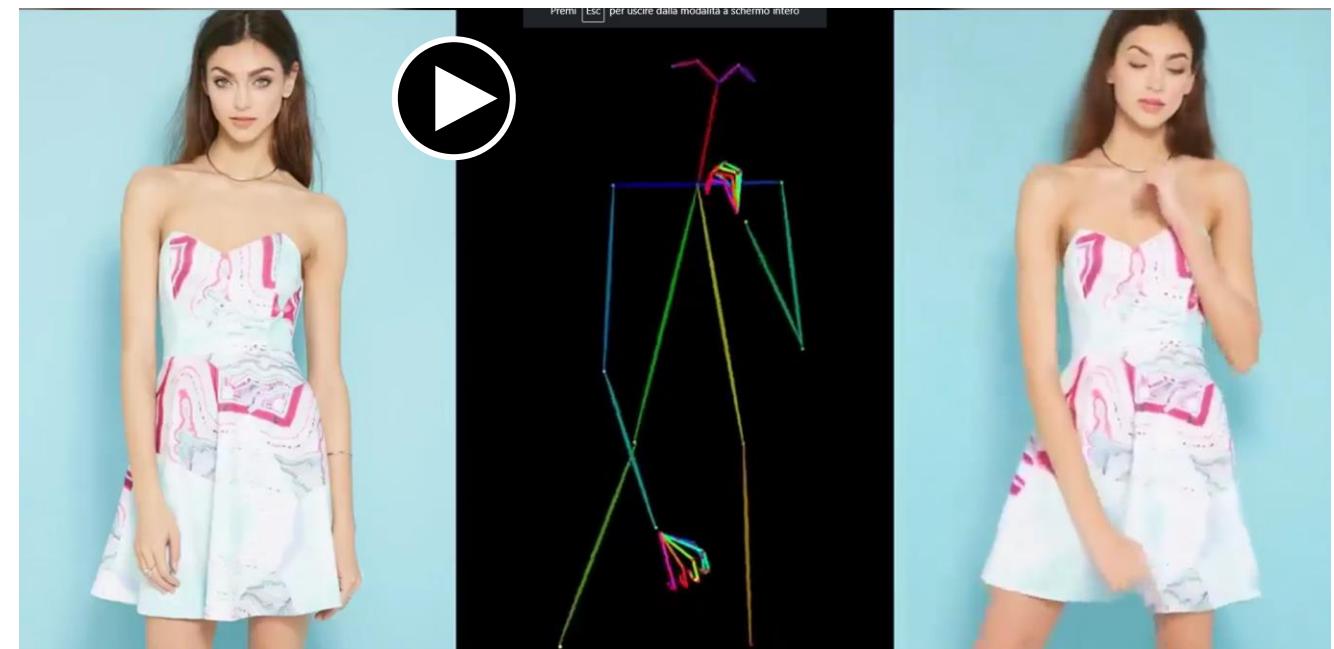
The video on the right was completely AI-generated from pose detection.

Absolutely insane. 🔥

With new research called 'Animate Everyone' by researchers from Alibaba, anyone will be able to quite literally be \*anyone\* in the future.

The potential applications (and dangers) of this are endless.

Become a part of our Medium community to stay informed about the latest developments in Generative AI research.-> <https://lnkd.in/dKajJXzR>

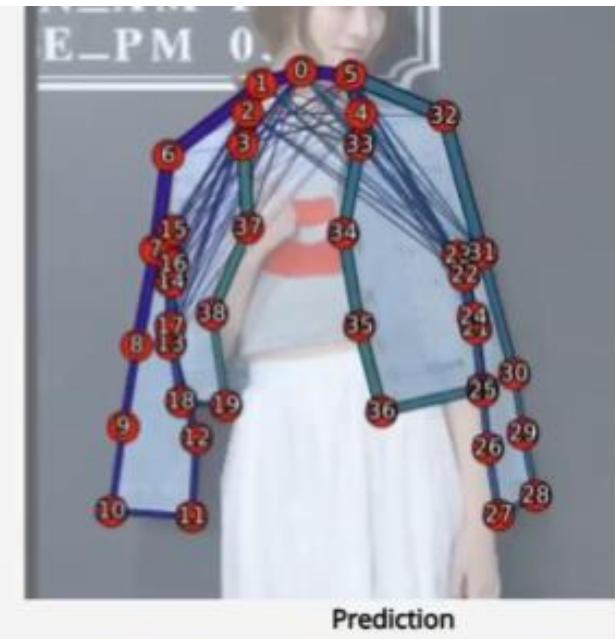
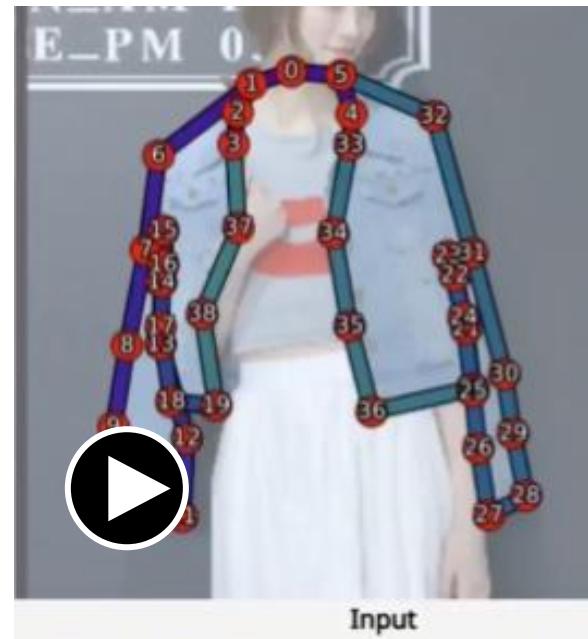


EdgeCape: SOTA Category-Agnostic Pose 

👉 TAU unveils EdgeCape, the novel SOTA in Category-Agnostic Pose Estimation (CAPE): finding keypoints across diverse object categories with a single model using only one or a few annotated support images.

- ✓ Novel adaptive edge weight prediction mechanism
- ✓ Learning real-valued instance-specific pose graph
- ✓ Novel graph architecture w/ Markovian Attention Bias
- ✓ SOTA over MP-100 dataset in both 1- & 5-shot

- 👉 Discussion <https://lnkd.in/dMgakzWm>
- 👉 Paper <https://lnkd.in/d7uKUGjP>
- 👉 Project <https://lnkd.in/dmHczCYz>
- 👉 Code <https://lnkd.in/dEJSTH46>



**Motion transfer** can be useful for:

- video gaming,
- creating worlds 3D,
- generating stories,
- generating characters.
- interactive movies.

You can interfere with the story.

## Other use cases<sup>1</sup>



The training data generation for autonomous driving; let's watch an unpaired video-to-video translation.

Developed by the JDA I research in Beijing, China.

What they basically do is:

- they take videos,
- they translate it into labels,
- and these labels can be translated into a video again (by manipulating the labels in whatever way they want and then create basically a new scenario of video data).

In this way, you could then generate virtually different kind of driving scenarios for an autonomous driving car training data.

You can translate day videos into night, into sunset, whatever time you want and create a really, really diverse training set.

It doesn't have to stop with autonomous driving.

It can also be autonomous shipping or flight data.

And a company that specializes on exactly this use case could be a great idea.

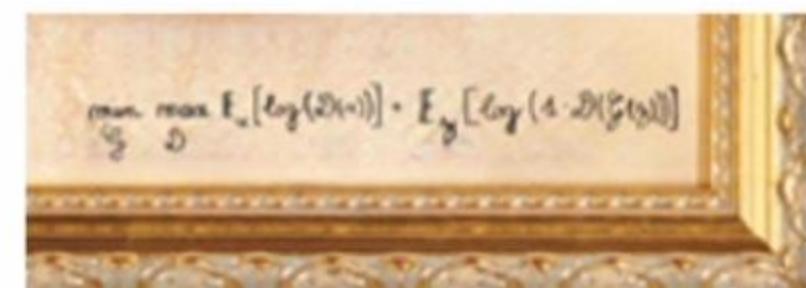
# Christie's auctioned AI-generated Art<sup>1</sup>



1. <https://www.bbc.com/news/technology-45980863>

**\$ 432,000**

in 2018.



The signature

"Generative art refers to art that in whole or in part has been created with the use of an autonomous system." - Wikipedia, Article: Generative Art<sup>1</sup>

There are many types **visual art**, software ar coding, etc.



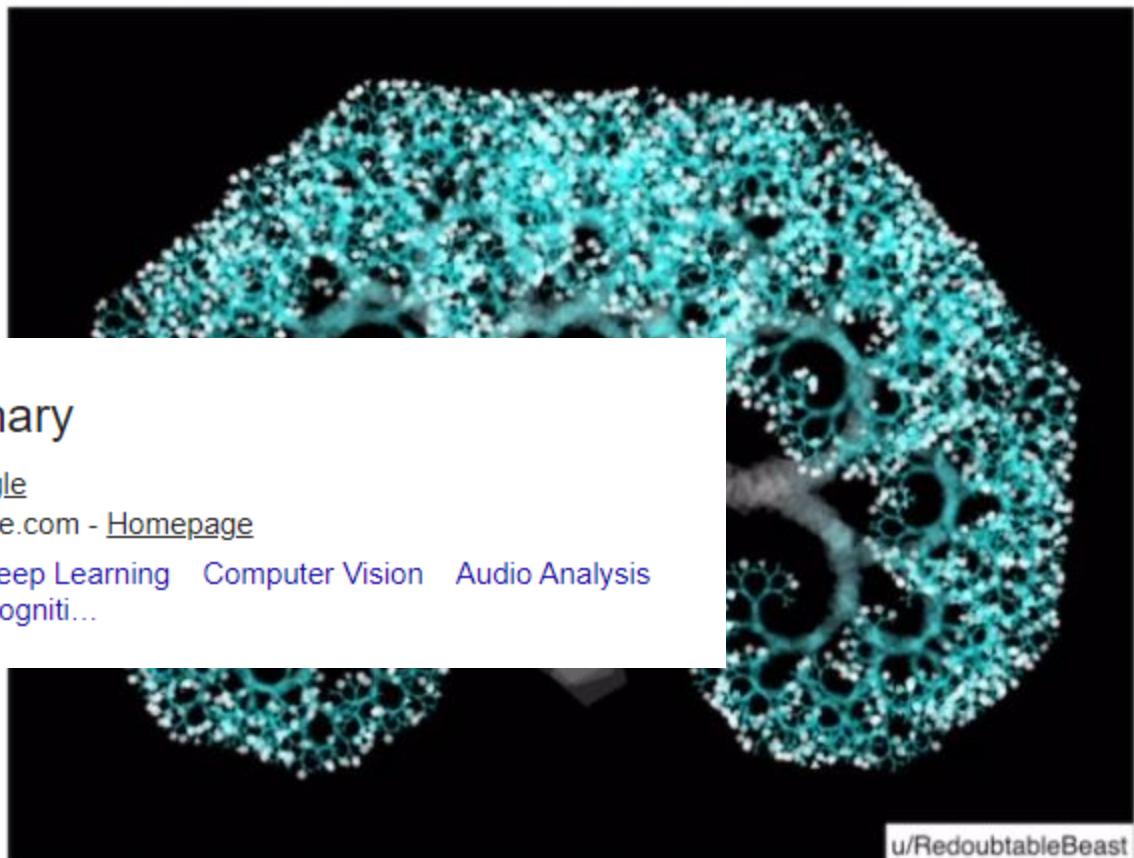
Three examples:

1. Rule-based: <https://p5js.org>
2. Generative models: [style-transfer](#), [DeepDream](#)
3. Algorithmically + probability dist.: [slothz](#), [birbs](#)

Kartik Chaudhary

Data Scientist at [Google](#)  
Verified email at google.com - [Homepage](#)

Machine Learning Deep Learning Computer Vision Audio Analysis  
Optical Character Recogniti...



u/RedoubtableBeast

1. [https://en.wikipedia.org/wiki/Generative\\_art](https://en.wikipedia.org/wiki/Generative_art)



## Kartik Chaudhary

Data Scientist at [Google](#)

Verified email at google.com - [Homepage](#)

Machine Learning Deep Learning Computer Vision Audio Analysis  
Optical Character Recogniti...

  kartikgill / TF2-Keras-GAN-Notebooks  Type / to search

  [acee9b6](#)  [TF2-Keras-GAN-Notebooks / gan / Generative-Adversarial-Network.ipynb](#) 



scrivi un testo sul pericolo delle fake news con l'avvento dell'intelligenza artificiale



L'avvento dell'intelligenza artificiale (IA) ha aperto nuovi orizzonti in molti settori, dalla sanità alla produzione industriale, all'educazione. Tuttavia, questa rivoluzione tecnologica porta con sé anche dei pericoli, tra cui il rafforzamento del fenomeno delle fake news.

Le fake news, o notizie false, non sono un problema nuovo. La diffusione di informazioni non verificate o deliberatamente ingannevoli ha una lunga storia. Tuttavia, l'IA ha potenziato la portata e la velocità di diffusione delle fake news, rendendo questo problema molto più difficile da gestire.

L'IA può essere usata per creare e diffondere fake news in vari modi. Un esempio è l'uso dei cosiddetti "deepfakes", video o immagini manipolate digitalmente in modo così raffinato da sembrare reali. Questi possono essere utilizzati per mettere in bocca a politici o personaggi pubblici parole che non hanno mai detto, o per creare situazioni che non si sono mai verificate. L'IA può anche essere utilizzata per generare testi ingannevoli, rendendo possibile la creazione di notizie false su larga scala.

La velocità e l'efficienza con cui l'IA può generare e diffondere fake news rappresenta un enorme problema. In un mondo sempre più interconnesso, le notizie si diffondono rapidamente e le persone spesso non verificano le fonti prima di condividere un'informazione. In questo contesto, le fake news possono influenzare l'opinione pubblica, alterare le percezioni e, in alcuni casi, causare danni reali.

Un altro aspetto preoccupante è che l'IA può rendere le fake news sempre più sofisticate e difficili da identificare. Questo rende ancora più complessa la lotta contro la disinformazione, poiché è necessario avere strumenti avanzati e competenze specifiche per riconoscere le notizie false.

Tuttavia, non tutto è perduto. La stessa IA può essere utilizzata per combattere le fake news. Algoritmi di apprendimento automatico possono essere addestrati a riconoscere e segnalare contenuti falsi o ingannevoli. Inoltre, si stanno sviluppando strumenti di fact-checking automatizzati, che potrebbero aiutare a verificare la veridicità delle informazioni in tempo reale.

E' fondamentale che le istituzioni, le organizzazioni di media, i tecnologi e gli utenti di Internet lavorino insieme per combattere il problema delle fake news. La formazione all'alfabetizzazione mediatica e digitale deve diventare una priorità, così come lo sviluppo di strumenti tecnologici efficaci per identificare e combattere le notizie false.

L'IA, quindi, può sia facilitare la diffusione delle fake news che essere uno strumento per combatterla. Ciò sottolinea l'importanza di un utilizzo etico e responsabile delle tecnologie di intelligenza artificiale. La nostra capacità di gestire il fenomeno delle fake news nell'era dell'IA sarà determinante per la salute delle nostre democrazie e della nostra società.

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formattiamo l'output di chatGPT in brevi paragrafi (se non lo fosse...)

# Video creation made 10x simpler & faster with AI

Transform your ideas into stunning content with AI voices, using our text to video tool

1 Start for free →

No credit card required

The screenshot shows the Fliki dashboard. At the top, there are navigation links: Fliki, Files, Podcast, Books. Below that, a breadcrumb trail: Files > Demo > 3 Tips to Improve Your Public ... . The main area displays 'Scene 4' with a 'Voiceover' layer containing the text '#2 Take control.' and a 'Layout' layer showing a thumbnail of a woman. A large play button is overlaid on the scene preview.

Turn text into videos with AI voices.

3 New file

The dialog box has the title 'New file'. It contains fields for 'FAKE NEWS' (text), 'Italian' (language), and radio buttons for 'Audio only' and 'Video' (selected). At the bottom are 'Create' and 'Cancel' buttons.

The project interface shows a 'Common scene' with a 'Background Audio' layer labeled 'New Love'. A red arrow points to the 'New Love' button. A red circle with the number '6' is placed near the 'Background Audio' section.

The 'Voice selection' interface allows users to choose a voice. It includes dropdowns for 'Language' (Italian), 'Dialect' (Italy), 'Gender' (Male), and 'Voice style' (Default). A list of voices is shown, with 'Elsa' highlighted by a red arrow. A red circle with the number '7' is placed above the list. At the bottom, there are buttons for 'Select' and 'Apply this voice to all the voiceovers'.

4 Export

8

The 'Common scene' interface shows a 'Scene 1' with a 'Voiceover' layer. A blue speech bubble with the text 'incolliamo qui il testo (di chatGPT)' points to the text input field. A red circle with the number '5' is placed near the 'Voiceover' layer.

[Features](#) [Use cases](#) [Pricing](#) [Resources](#) [Company](#) [Log In](#) [Create Account](#)

#1 AI VIDEO CREATION PLATFORM

# Create professional videos without mics, cameras, or actors

Turn your text into high-quality videos with AI avatars and voiceovers — in over 120 languages.

[Create a free AI video](#)[Watch product tour](#)

No credit card required.

The screenshot shows the Synthesia software interface. At the top, there's a toolbar with icons for Avatar, Text, Shape, Media, and Record. Below that is a scene editor titled "Synthesia Product Demo". It shows a single scene labeled "SCENE 1" with a thumbnail of a woman's face. To the right of the video player, there are various settings: "Background color" set to white (#FFFFFF), "Background image" with options for "Replace" and "Crop", "Quality" slider at 100%, and a "Music" section. The video player itself has a play button, volume control, and a progress bar at 0.00 / 0.09. At the bottom, there's a transcript: "Hey, I'm Alex, and this is what an AI Avatar looks and sounds like. Create a free AI video and see for yourself."

## Top 8 AI tools for Engineers and Programmers in 2023 (Cheatsheet)



### 8 BEST AI TOOLS FOR EVERY ENGINEER

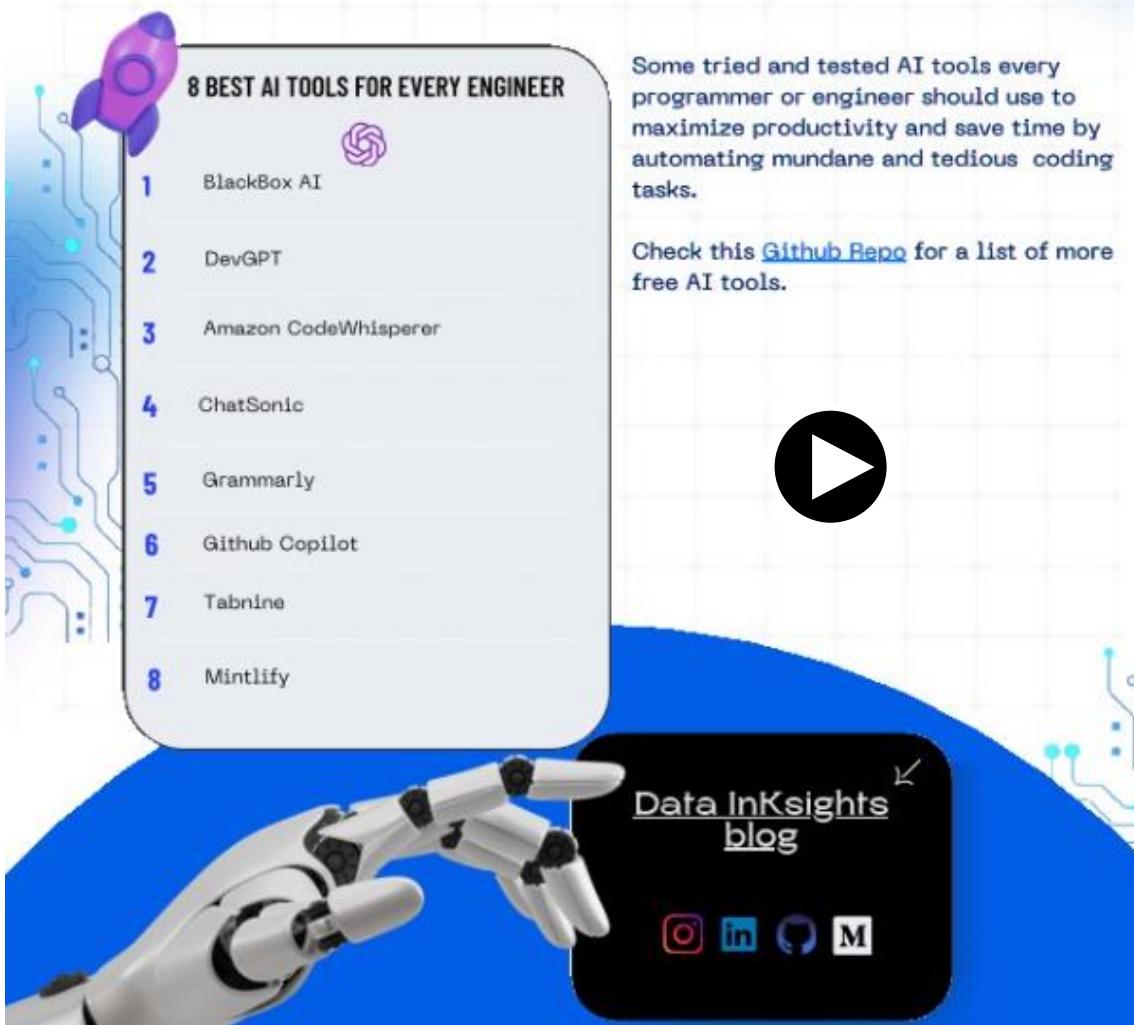
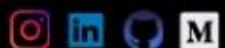
- 1 BlackBox AI
- 2 DevGPT
- 3 Amazon CodeWhisperer
- 4 ChatSonic
- 5 Grammarly
- 6 Github Copilot
- 7 Tabnine
- 8 Mintlify

Some tried and tested AI tools every programmer or engineer should use to maximize productivity and save time by automating mundane and tedious coding tasks.

Check this [Github Repo](#) for a list of more free AI tools.



Data InKsights  
blog ↵



# 4 AI Terms You Need to Know

Source: Gartner  
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## Generative AI

AI techniques that learn a representation of artifacts from data and use it to generate brand-new, unique artifacts that resemble but don't repeat the original data.

## Artificial General Intelligence (AGI)

A form of AI that has the ability to understand, learn and apply knowledge across a wide range of tasks and domains. It could solve problems that it hadn't been trained on, and show some sense of logic or common sense, making it more "human."

## Constitutional AI<sup>®</sup>

Using AI that is trained on a specific philosophy; set of rules, policies or regulations; or style of language to check the output of another generative AI system to ensure that it complies. If it doesn't comply, it then regenerates until it actually does comply.

## Artificial Intelligence (AI)

Applying advanced analysis and logic-based techniques, including machine learning (ML), to interpret events, support and automate decisions, and take actions.

## 3 Common Questions About Generative AI

30 agosto 2023

1

### What are the risks of generative AI?

- Lack of transparency
- Inaccuracy
- Bias
- Intellectual property (IP) exposure and copyright infringement
- Cyber and fraud attacks
- Negative impact on sustainability goals



2

### How will generative AI contribute business value?

- Revenue opportunities**  
Create new products more quickly and leverage new revenue channels.



- Cost and productivity opportunities**  
Greatly extend the range and competency of workers across the board and improve workflows.

### Risk opportunities

Identify potential risks to the enterprise more quickly, comply with sustainability regulations and mitigate the risk of stranded assets.

3

### What are the best practices for using generative AI?

- Start by testing extensively with internal stakeholders and employee use cases.



Prize transparency with staff, customers and citizens about the fact that they are interacting with a machine.



- Set up processes and guardrails to track biases and other issues of trustworthiness.

Keep functionality in beta for an extended period of time to temper expectations or perfect results.

Ensure that sensitive data is neither input nor derived.



Chatbot di OpenAI per generazione di **contenuti**: articoli di blog, correzione testi, canzoni e poesie, pezzi di codice (anche correzioni), (dialoghi in inglese od italiano), ricerche tematiche, spiegazione di algoritmi  
<https://openai.com/blog/chatgpt/>

## Esempi di AI generativa

Raffaele Gaito - <https://www.youtube.com/watch?v=a4-hhQgRvlw>



Notion

Anch'esso di OpenAI, genera **immagini** a partire da input testuali.  
<https://openai.com/blog/dall-e/>  
<https://it.wikipedia.org/wiki/DALL-E>

Strumento di produttività personale che ora **incorpora AI generativa**: non serve chiamare chatGPT e poi copiare / incollare il risultato in Notion: lo si fa genera direttamente in Notion



Genera **video** da zero (in base al testo in input) di un essere umano che non esiste (un avatar personalizzabile) ma che ha le sue espressioni. Alcune aziende lo usano per fare i tutorial.  
<https://www.synthesia.io/>



[This Person Does Not Exist](https://thispersondoesnotexist.com)  
<https://thispersondoesnotexist.com>



Per **content creator**: genera immagini ad alta definizione (4K), post, blog, newsletter, ads; supporta il **riutilizzo dei contenuti**, ad es. trasforma i content pieces (ad es. da video a testo). E' uno strumento professionale, per il lavoro (si paga un abbonamento)  
<https://gocharlie.ai/>

Fa una cosa sola: ad ogni aggiornamento di pagina mostra il **volto** di una persona che non esiste; utile quando serve un volto.

# Generative AI: text-to-text



febbraio 2023

## OpenAI GPT-3

co:here

NICHESSS

ws Writesonic

ideasbyai<sup>beta</sup>

HubSpot

sudo write



ELEUTHERAI



Requstory

CHIBI



Ideas AI

Powered by OpenAI



copysmith



Flowrite



grammarly



copy.ai



MarketMuse



Simplified



Jasper



frase

InferKit



GooseAI

Research AI

AI21labs

A luglio 2023  
aggiungere  
Google Bard e  
Claude di  
Anthropic

# text-to-image (T2I) comparison



	Stable Diffusion	DALL•E 2	Mid-journey
<b>OPENNESS</b>	open-source	closed-source	closed-source
<b>CODE</b>	Github	API only	Discord powered
<b>PRICING</b>	Free	Pay per usage	Free credit
<b>PLAYGROUND</b>	<a href="https://beta.dreamstudio.ai">https://beta.dreamstudio.ai</a>	<a href="https://labs.openai.com/">https://labs.openai.com/</a>	<a href="https://midjourney.com/">https://midjourney.com/</a>
Photorealistic 8k eye view of joker (black and white)			
Landrover defender as a long train in the mountains (black and white)			

febbraio 2023



# Generative AI (models)

Curated by @aaronsiim

## Classification

descript text.cortex neural.love cohore HubSpot

Simplified Jasper CHIBI eleutherAI  
GET3D copy.ai MarketMuse NICHESSS  
Wombo Wonder pixray-text2image neural.love Requstory  
runway synthesis Meta AI Google AI Phenaki  
Play.ht MURFA RESEMBLE.AI WELLSAID ideasbyai beta  
DALL·E 2 Stable Diffusion craiyon Jasper Flowrite  
Imagen NightCafe GauGAN2 Amazon CodeWhisperer  
InferKit Writesonic LensAI CLIP-Mesh DeepAI

## Generation

Ideas AI copysmith OpenAI GPT-3 Blog Idea Generator  
NovelAI Omneky Moonbeam Bertha.ai anyword  
Peppertype.ai Hypotenuse AI letterdrop artbreeder alpaca  
mage.space KREA Nyx gallery > ROSEBUD.AI PhotoRoom  
Aflorithmic sudo write TREE Ind. Rytr Lexica  
MDM: Human Motion Diffusion Model DreamFusion speech from brain

Fliki descript non-invasive brain recordings tabnine  
replit Ghostwriter GitHub Copilot MUTABLE AI GooseAI  
HyperWrite Subtxt WRITER wordtune COMPOSE AI LAIKA

## Transformation

VOICEMOD AssemblyAI GPT-3 x Image Captions  
text.cortex neural.love frase Whisper descript  
AudioLM grammly AI21labs CONTENDA PhotoRoom

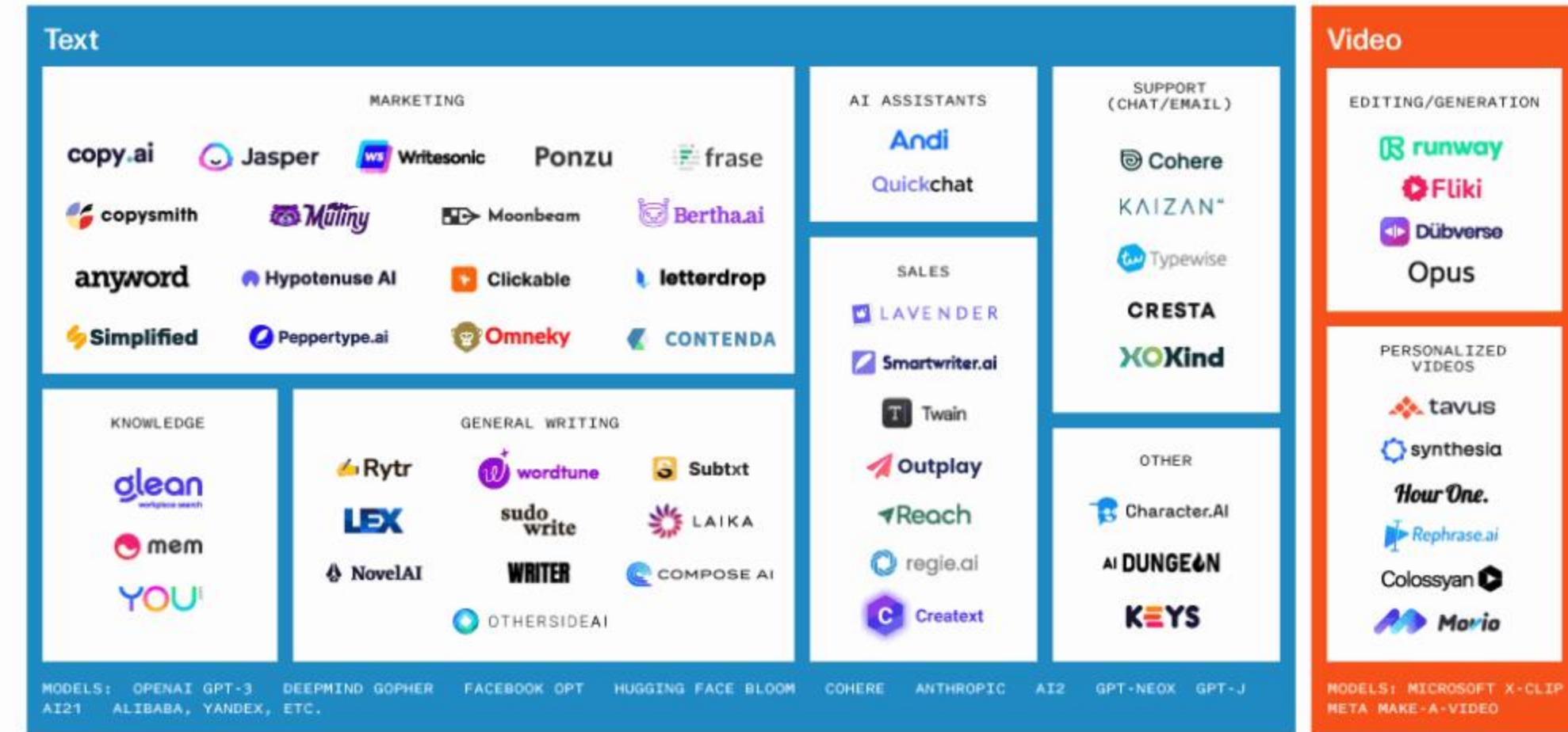


@aaronsiim

# The Generative AI Application Landscape v2



A work in progress



## Image

### IMAGE GENERATION

**MidJourney**

**craiyon**

**wombo.ai**

> ROSEBUD.AI

**Lexica**

**image.space**

**KREA**

**Open Art**

**PLAYGROUND**

**PhotoRoom**

**alpaca**

**Nyx gallery**

**artbreeder**

### CONSUMER/SOCIAL

**MidJourney**

### MEDIA/ADVERTISING

**SALT**

THE  
CULTURE  
DAO

### DESIGN

**Diagram**

**VIZCOM**

**Poly**

**INTERIOR AI**

**uizard**

**Aragon**

**maket**

**CALA**

MODELS: OPENAI DALL-E 2 STABLE DIFFUSION  
CRAIYON

## Code

### CODE GENERATION

**GitHub Copilot**

**replit** GhostWriter

**tabnine**

**MUTABLEAI**

### TEXT TO SQL

**AI 2SQL\***

**seek**

### WEB APP BUILDERS

**Debuild**

**Enzyme**

**durable**

### DOCUMENTATION

**Mintlify**

**Stenography**

### OTHER

**excelformulabot**

## Speech

### VOICE SYNTHESIS

**RESEMBLE.AI**

broadn

**WELLSAID**

**coqui**

**podcast.ai**

**descript** overdub

**Fliki**

**Listnr**

**REPLICA**

**VOICEMOD**

MODELS: OPENAI

## 3D

### 3D MODELS/SCENES

**mirage**

**CSM**

MODELS: DREAMFUSION NVIDIA GET3D NDM  
APPLE ML

## Other

### MUSIC

**SPLASH**

**Mubert**

**DABBERS**

**Aiva Technologies**

**Endel**

**boomy**

**Harmonai**

**SONIFY**

### GAMING

**AI DUNGEON**

### RPA

**Adept**

**māyā**

### AI CHARACTERS/AVATARS

**Character.AI**

**inworld**

*The Simulation*

**OASIS**

### BIOLOGY/CHEMISTRY

**Cradle**

### VERTICAL APPS

**Harvey**

MODELS: OPENAI JUKEBOX

# Models under openAI



@aaronsiim

GPT2

GPT-3

ChatGPT

DALL-E 2

Jukebox

Whisper

OpenAI Codex

Models	Type
gpt-2	text-to-text
gpt-3	text-to-text
chatGPT	text-to-text
DALLE•E 2	text-to-image
jukebox	text-to-music
whisper	speech-to-text
codex	text-to-code

# 60 Best AI Tools

## AI Art Tools

1. Midjourney
2. Stable Diffusion
3. NightCafe Studio
4. Dall-E 2
5. Artbreeder

## Email Tools

1. HoppyCopy
2. Superflows
3. Hunter IO
4. Subject Line Generator
5. Instantly

## Writing Tools

1. WriteSonic
2. Jasper
3. Copy AI
4. Word AI
5. ArticleForge

## Video Generators

1. Gen 2 by Runway
2. Pictory
3. Synthesia
4. Kaiber AI
5. Wonder Dynamics

## Text To Speech

1. Descript
2. Murf AI
3. Lovo AI
4. Speechgen IO
5. Speechify

## SEO AI Tools

1. Surfer SEO
2. BrightEdge
3. Rank IQ
4. WriterZen
5. AISEO

## Chatbots AI Tools

1. ChatBot
2. Kaizan
3. Cohere
4. Chatbase
5. Wonderchat.io

## Research AI Tools

1. WriteSonic
2. Consensus
3. Scite AI
4. Perplexity AI
5. Iris AI

## Coding AI Tools

1. Spellbox
2. 10Web
3. Codeium
4. Replit
5. Durable AI

## Sales AI tools

1. Voxwave AI
2. Warmer AI
3. Drift
4. Octane
5. Exceed AI

## Meetings AI Tools

1. Fireflies
2. Krisp AI
3. Vowel
4. Grain
5. Cogram

## Productivity Tools

1. Beautiful AI
2. Mem
3. Otter
4. Fliki
5. Hemingway

19 giugno 2023

## 9 Reasons to Train Your Own LLM

### 1. Data Privacy

- Data stays inside VPC or on premise
- Stop data leaking to competitors
- No 3rd party data breaches

### 2. Ownership

- Your engineering team builds it
- No recurring professional services
- Build AI moat & in-house know-how

### 3. Better Performance

- Consistent outputs
- Stop hallucinating
- Stop suggesting your competitors

### 4. Flexibility

- Control LLM providers
- Choice over open-source LLMs
- Adapt LLM stack to custom needs

### 5. Cost

- Lower cost per API hit
- Control cost
- Cost transparency

### 6. Uptime

- Control uptime
- Stop fighting for usage with others
- Avoid 3rd party outages

### 7. Latency

- Lower latency
- Higher throughput
- Control over latency

### 8. Content Control

- Stop inappropriate content
- Stop unlicensed content
- Your own data - data transparency

### 9. Bias

- Control biases with your own data
- Unlearn biases with unbiased data

LAMINI



Sharon Zhou, PhD • 3° e oltre  
Building the future of ...  
2 giorni •

+ Segui



Training LLMs is a powerful art.

It's behind the most successful LLMs in production:  
ChatGPT, GPT4, Github Copilot.

And yet, the best tricks are locked away.

But there are easy steps that you can take to train your  
own LLM from foundation LLMs now.

Here's how

5 simple steps to prepare your data and train an LLM  
from a foundation one

1 Define the LLM interface

...vedi altro

[Vedi traduzione](#)

210

8 commenti • 20 diffusioni post



Consiglia



Commenta



Diffondi il  
post



Invia



Aggiungi un commento...



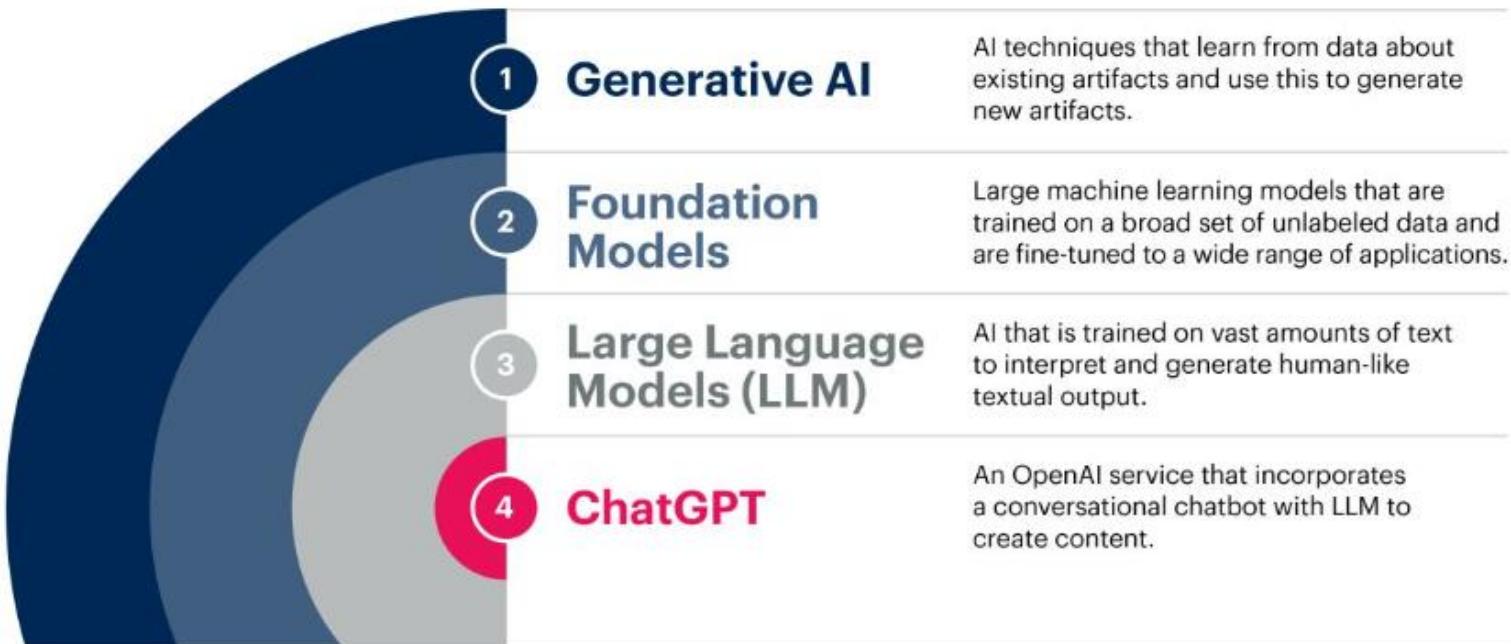
Più rilevanti ▾



Kufre Okon • 3° e oltre  
Security Risk

1 giorno \*\*\*

# What Is Generative AI?



Source: Gartner  
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Gartner

Gartner  
Gartner 1.608.771 follower  
19 ore •

You need to figure out:

- How generative AI fits into existing and future business and operating models
- How to experiment productively with GenAI use cases
- How to prepare for the longer-term disruptions and opportunities resulting from GenAI trends

Get the executive's guide: <https://gtnr.it/3QiRpJu>

#GenerativeAI #AI #ArtificialIntelligence

Vedi traduzione



19 commenti • 331 diffusioni post



Consiglia



Commenta



Diffondi il  
post



Invia

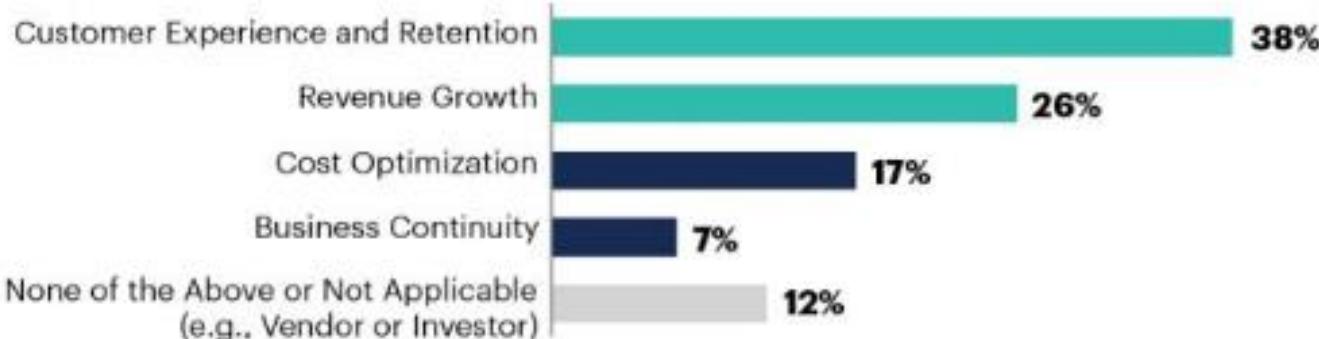
Gartner

# 7 practical applications for generative AI today



## Customer experience and retention are the primary focus of Gen AI initiatives

Primary Focus of Generative AI Initiatives



n = 2544

Source: Gartner

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Gartner.



Traffic-Net: 3D Traffic Monitoring Using a Single Camera 🚗🚗🔥 This is just crazy. From a single camera we can do 2D and 3D object detection, create a birds-eye view of the traffic and even track the objects over time. We can then use the information to estimate speeds, generate heatmaps and trajectories of both pedestrians and vehicles. #trafficmonitoring #objectdetection #ai #ml

- ★ The method uses YOLOv5 for detection and tracks the objects with SORT
- ★ Hybrid satellite-ground based inverse perspective mapping (SG-IPM) method for camera auto-calibration is also developed which leads to an accurate 3D object detection and visualisation

Will upload a video on my YouTube "Nicolai Nielsen" in a few days where we go over how you can run the code yourself and extract the results.

Check out the paper here: <https://lnkd.in/eem6qMPs>

31 ottobre 2023

Text 2 Image

