

Dall'AI Discriminativa all'AI Generativa

by Futura AI



**“Tutto quello che
avreste voluto sapere
sulla AI”***

***Ma non avete mai osato chiedere”**

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Chi sono

- **Innovation Manager:** aiuto le aziende a navigare nel mondo digitale e a implementare nuove tecnologie legate all'intelligenza artificiale e all'automazione. Il mio lavoro consiste nel facilitare la collaborazione e l'integrazione delle idee innovative in tutti gli aspetti delle organizzazioni, dalla ricerca e sviluppo al marketing, dalla produzione alle vendite.
- **Data Scientist:** offro consulenza esterna per la creazione di pipeline per la pulizia dei dati, la trasformazione e la modellazione. La mia specialità è la consulenza strategica: utilizzo dati finanziari, di produzione ed open data per ottimizzare le strategie aziendali. Offro consulenza sulle opportunità di business, identificando aree di miglioramento e suggerendo soluzioni innovative.
- **Machine learning professor:** mi occupo di formazione post-laurea per il progetto Big Data Lab della regione ER dal 2018. Sono docente di corsi di programmazione Python e di algoritmi di ML e Deep Learning. Creo percorsi di formazione personalizzata per dirigenti e manager, aiutandoli a migliorare le loro competenze in questo campo in rapida evoluzione.



L'AI NON SI IMPLEMENTA. SI COSTRUISCE INSIEME.

People Passion Results

L'intelligenza artificiale non è una destinazione, ma uno strumento. Noi accompagniamo le persone nel costruire valore attraverso soluzioni AI personalizzate, flessibili e sostenibili.

Nessun pacchetto standard. Solo soluzioni su misura

mail info@futuraaigroup.com



Definizione di dati

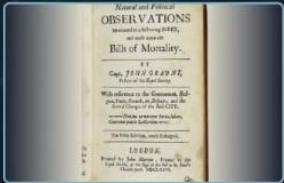
I dati sono rappresentazioni originarie, cioè non interpretate, di un fenomeno, evento, o fatto, effettuate attraverso simboli o combinazioni di simboli, o di qualsiasi altra forma espressiva legate a un qualsiasi supporto.

- Dati sono rappresentazioni di eventi o fatti
- Non interpretate (originarie)
- Attraverso simboli (o combinazioni di simboli)
- Contenute su supporti (forma espressiva)

HISTORY OF DATA



The Ishango bone holds the first evidence of data collection and storage.



John Graunt introduces the concept of data analysis in 1663.



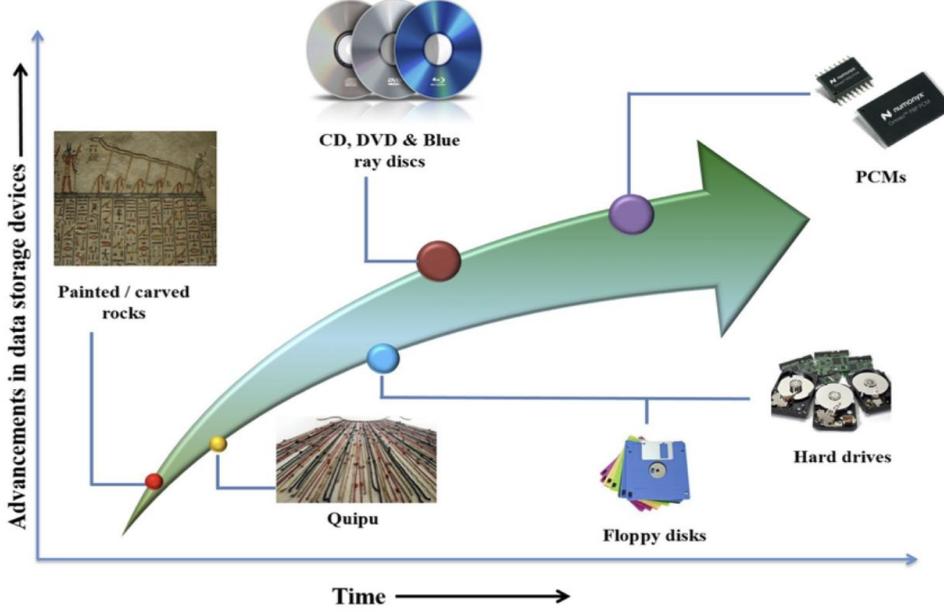
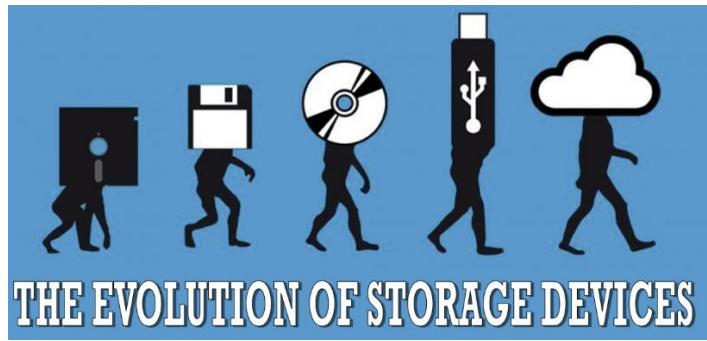
Herman Hollerith designs a machine that helped complete the US census in 1890.



Fritz Pfeleumer invents the magnetic tape which later inspired the invention of floppy disks and hard disk drives.



Sir Tim Berners Lee invents the World Wide Web.



Definizione di Informazione

L'informazione deriva da un dato, o più verosimilmente da un insieme di dati, che sono stati sottoposti a un processo di interpretazione che li ha resi significativi per il destinatario.

L'informazione è:

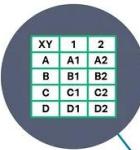
- insieme di dati
- interpretati
- comprensibili per il destinatario

Structured Data

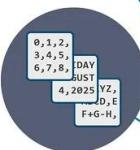
vs

Unstructured Data

Can be displayed
in rows, columns and
relational databases



Numbers, dates
and strings



Estimated 20% of
enterprise data (Gartner)



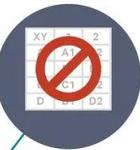
Requires less storage



Easier to manage
and protect with
legacy solutions



Cannot be displayed
in rows, columns and
relational databases



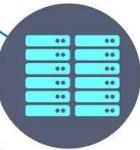
Images, audio, video,
word processing files,
e-mails, spreadsheets



Estimated 80% of
enterprise data (Gartner)



Requires more storage



More difficult to
manage and protect
with legacy solutions



10%

Structured Data

Quantitative - in the form of numbers and values



90%

Unstructured Data

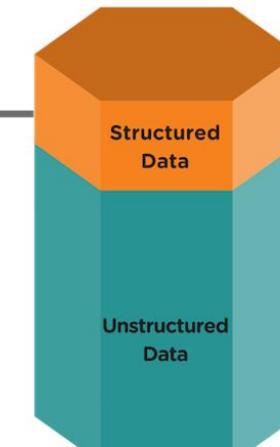
Qualitative - in the form of text files and varying formats

Structured Data

NPS/CSAT
CRM
Sales
Excel
Finance

Structured Data

Unstructured Data



Unstructured Data



DATI: DIAMANTI GREZZI



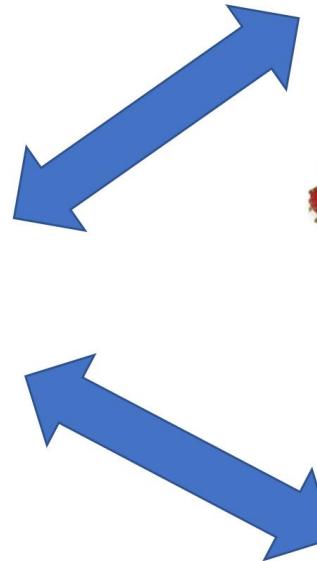
DATI



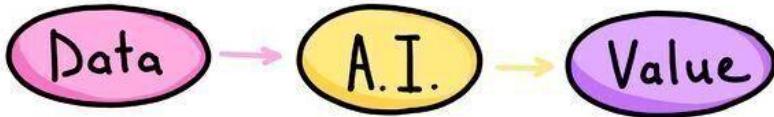
INFORMAZIONI



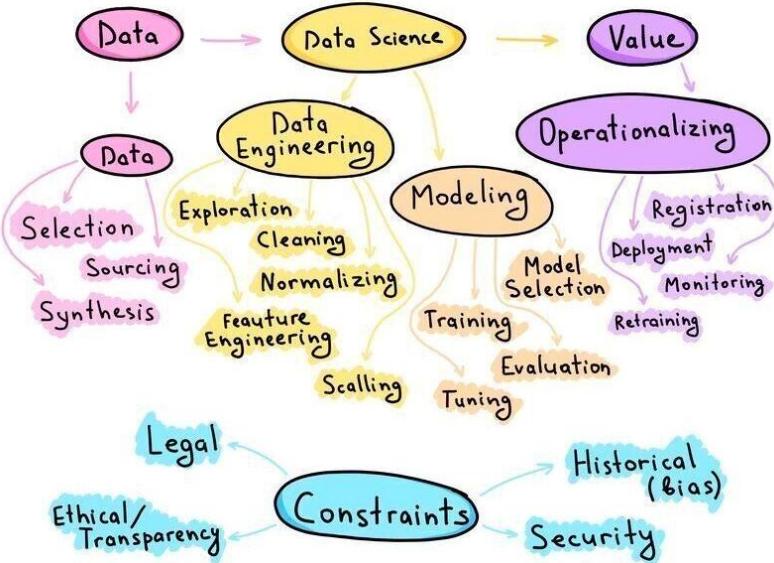
AI



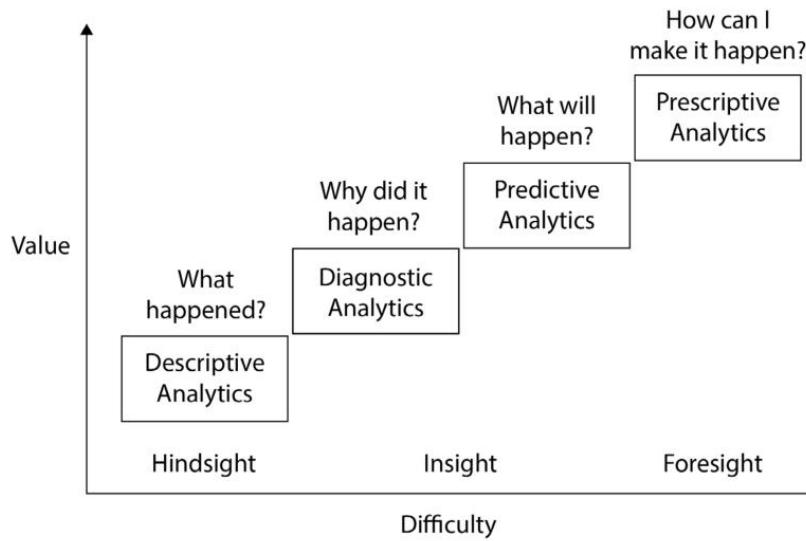
WHAT COMPANIES THINK A.I. LOOKS LIKE



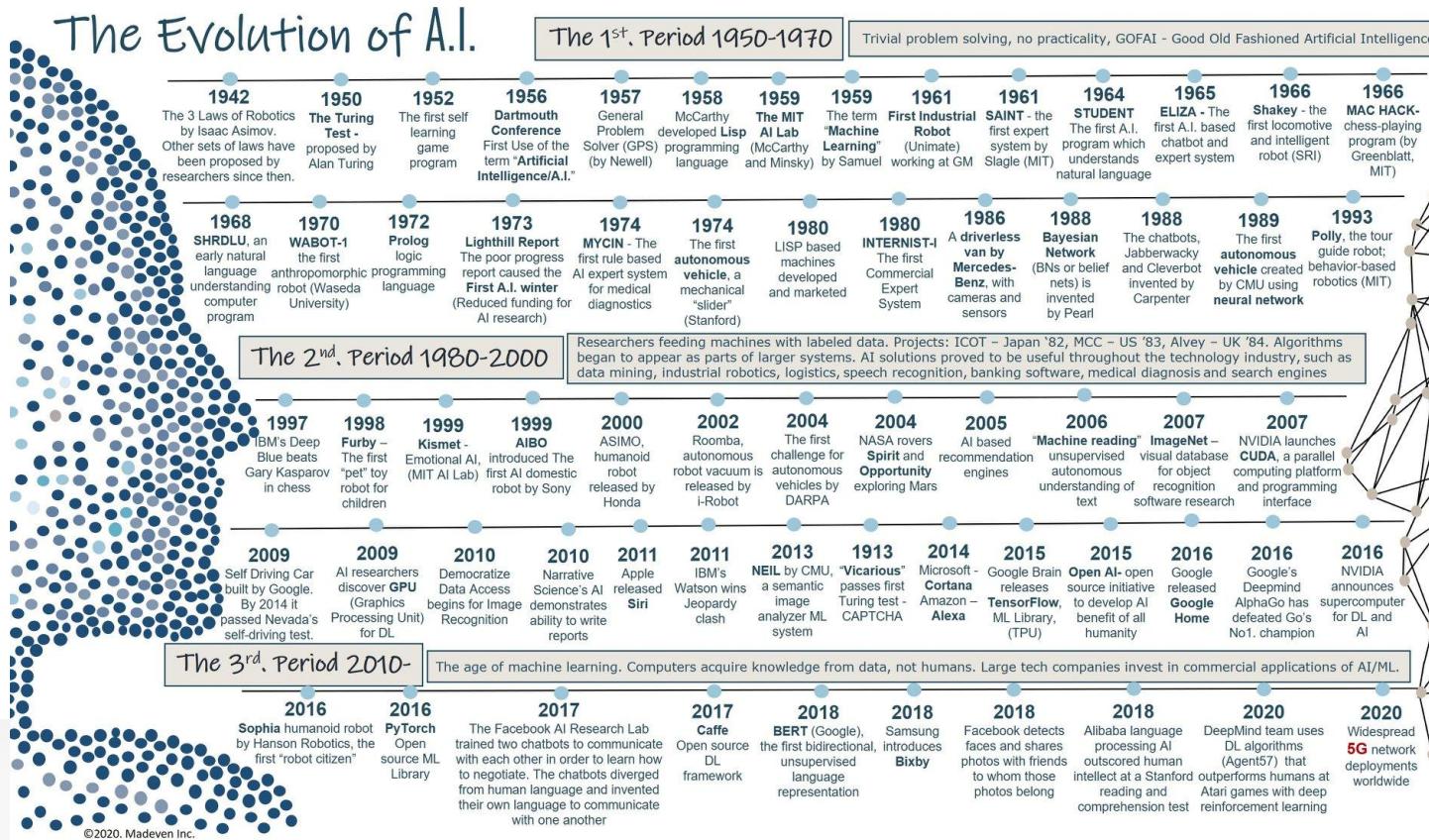
WHAT IT ACTUALLY IS



ANALYTICS PATH TO VALUE (WITH DATA STORY)



Da quanto tempo esiste AI?



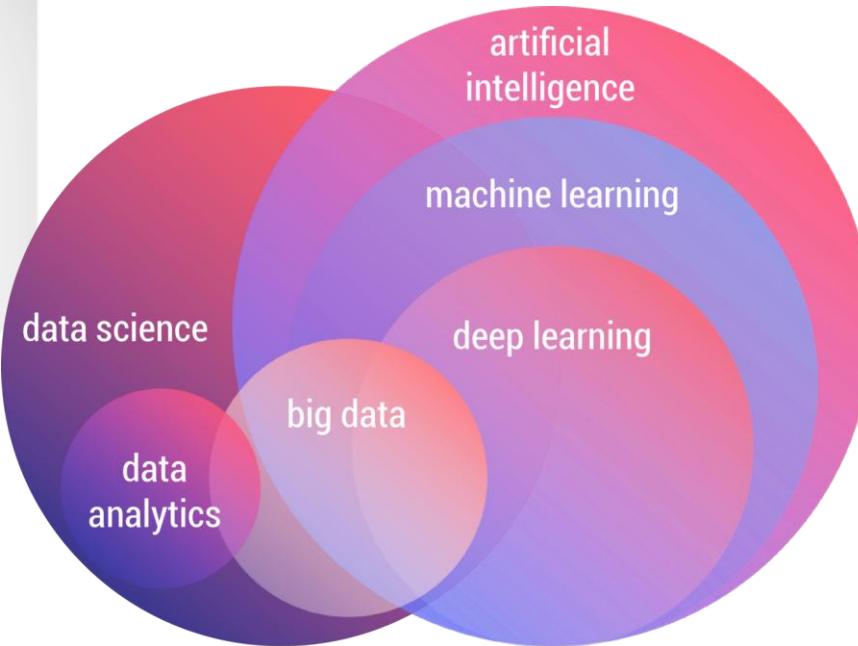
Cos'è AI?

AI: campo della scienza informatica che si occupa dello sviluppo di sistemi e algoritmi in grado di imitare l'intelligenza umana, consentendo alle macchine di apprendere, ragionare, risolvere problemi e prendere decisioni in modo autonomo

L'obiettivo principale dell'AI è quello di creare macchine in grado di imitare e superare le capacità cognitive umane in diversi ambiti

Cos'è il Machine Learning?





"E' il settore dell'intelligenza artificiale che studia come dare ai computer l'abilità di imparare senza essere esplicitamente programmati" - 1959



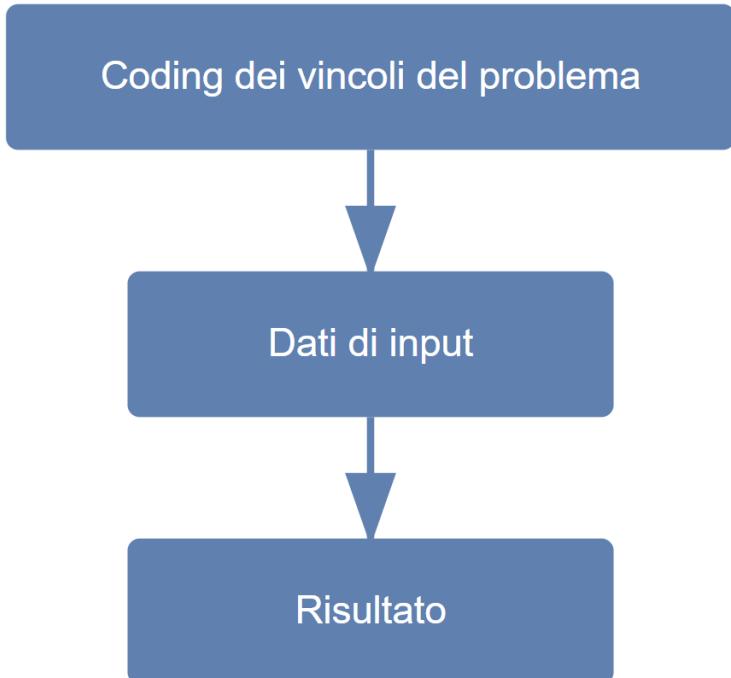
ARTHUR SAMUEL

Pioniere dell'AI
Inventore del termine "Machine learning"

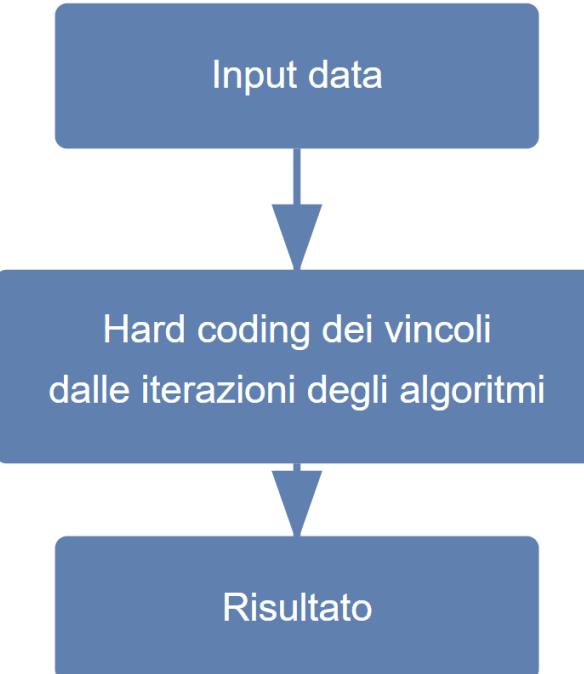


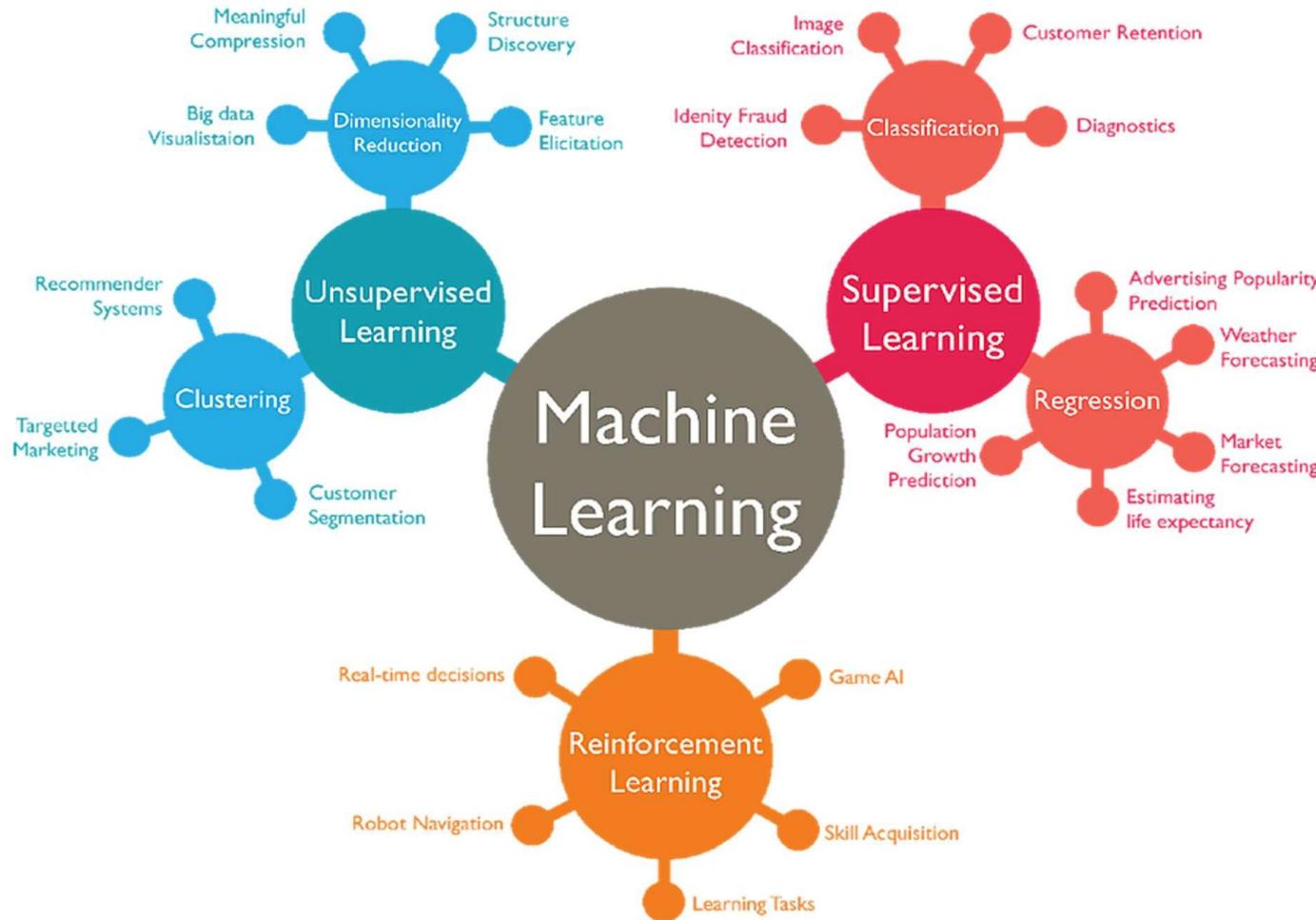
**"Un giorno le macchine
riusciranno a risolvere tutti i problemi,
ma mai nessuna di esse potrà porne uno."**
(Albert Einstein)

Programmazione classica



Machine learning

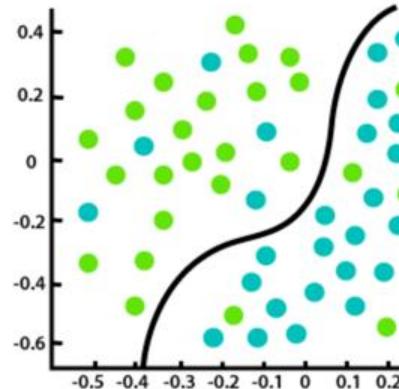




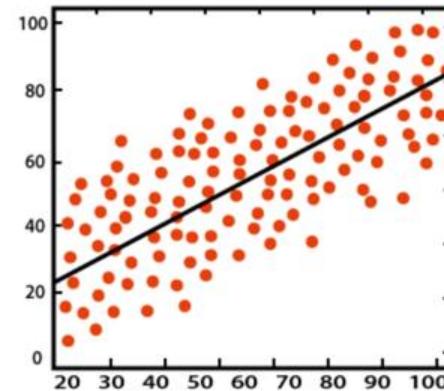
SUPERVISIONATO



Classification



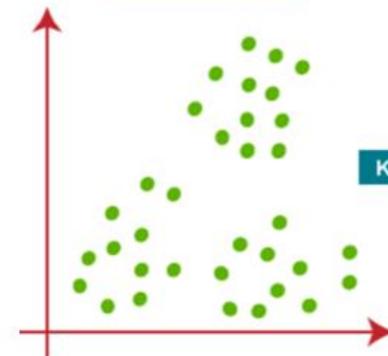
Regression



NON SUPERVISIONATO

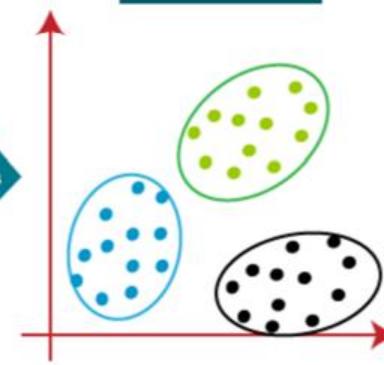


Before K-Means



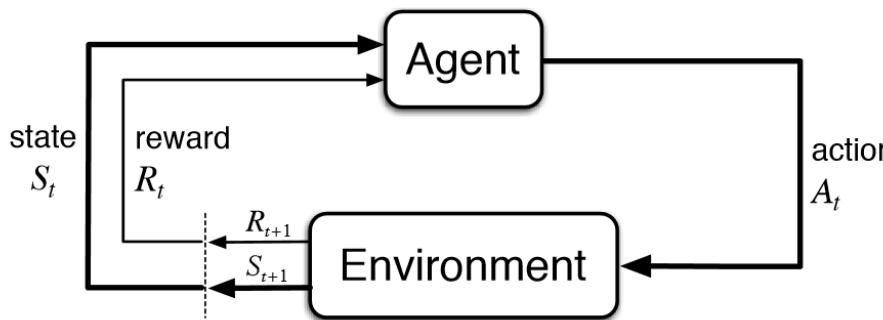
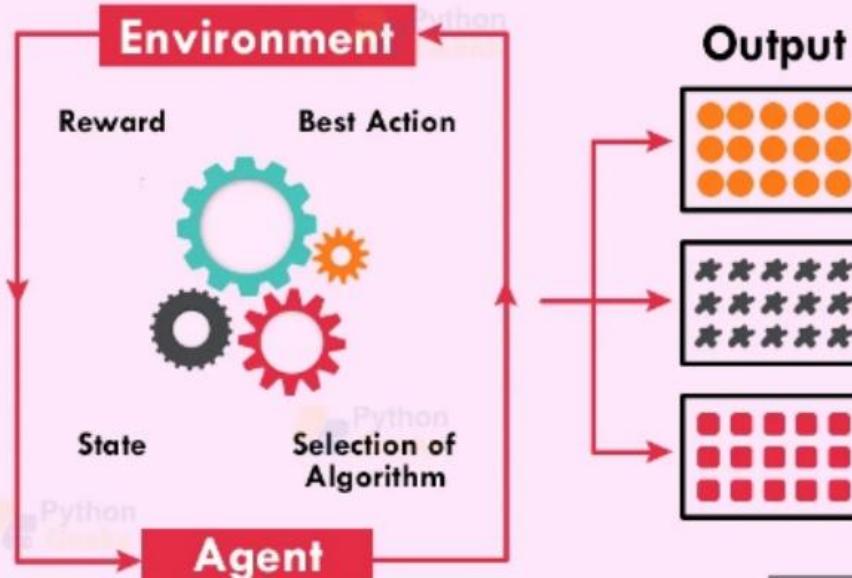
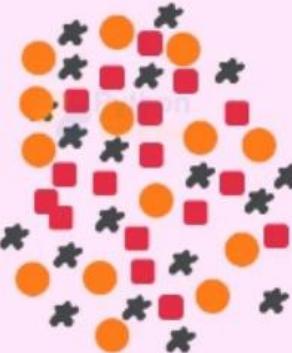
K-Means

After K-Means



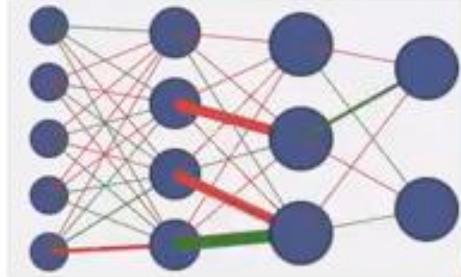
Reinforcement Learning in ML

Input Raw Data



Turn: -0.7932
Engine: 0.99999
Fitness: 9.78920

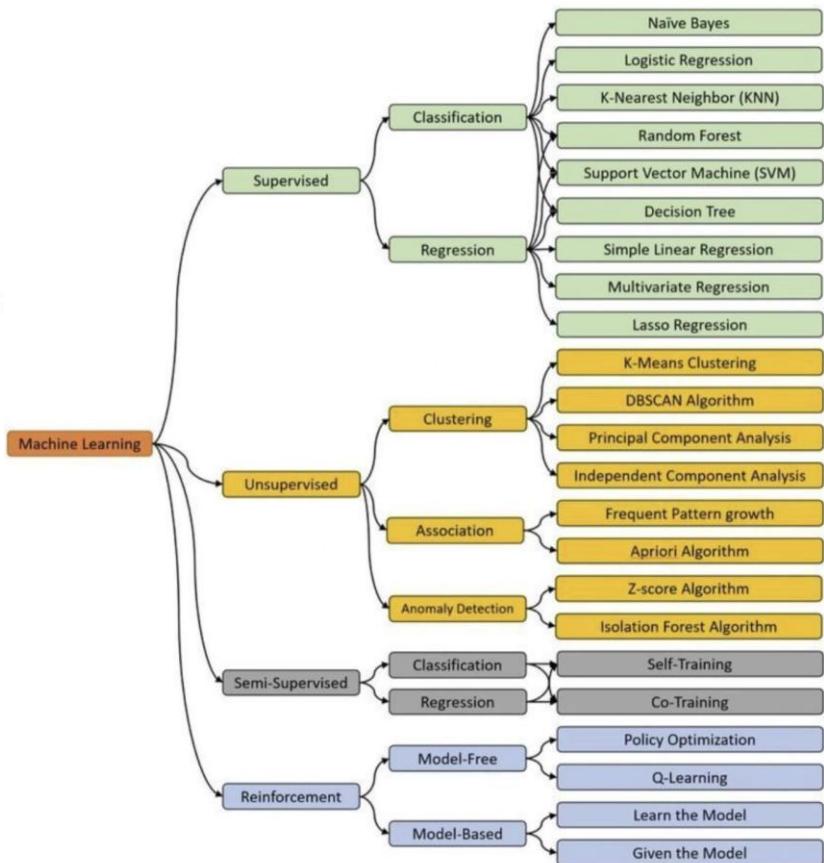
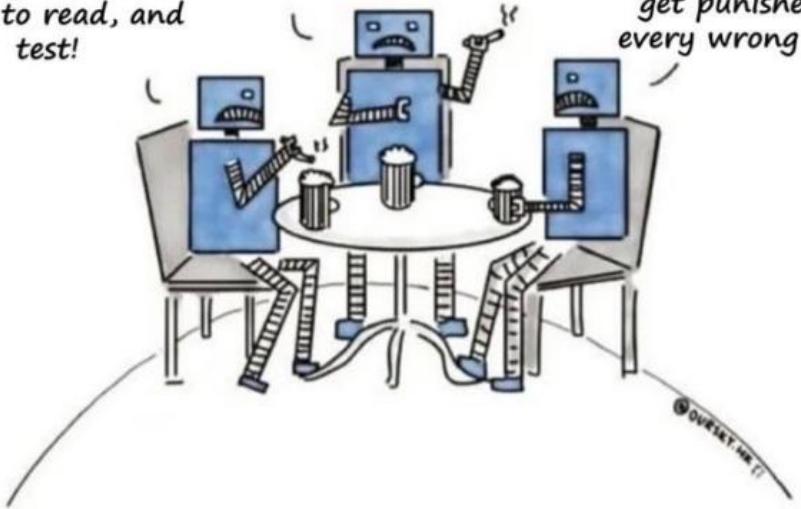
Generation: 1



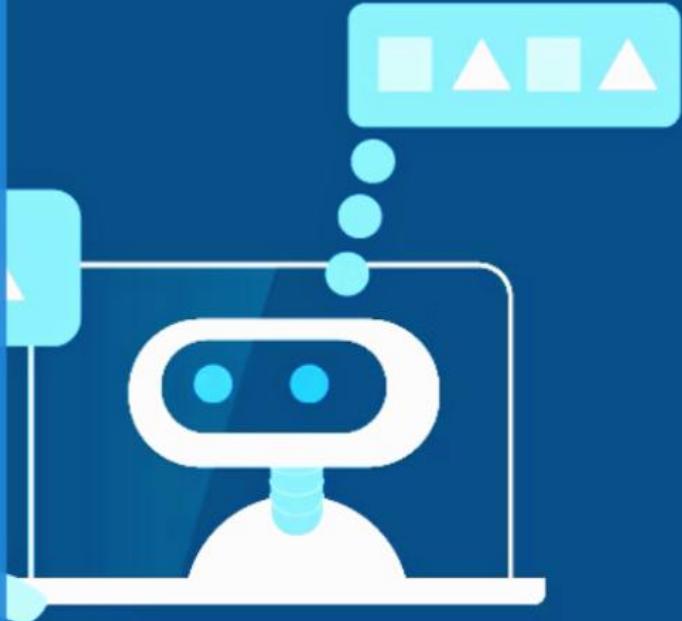
Supervised
They gave me so
much to read, and
test!

Unsupervised
Me too. But at least
they told you the
answers

Reinforcement
At least you all don't
get punished for
every wrong action

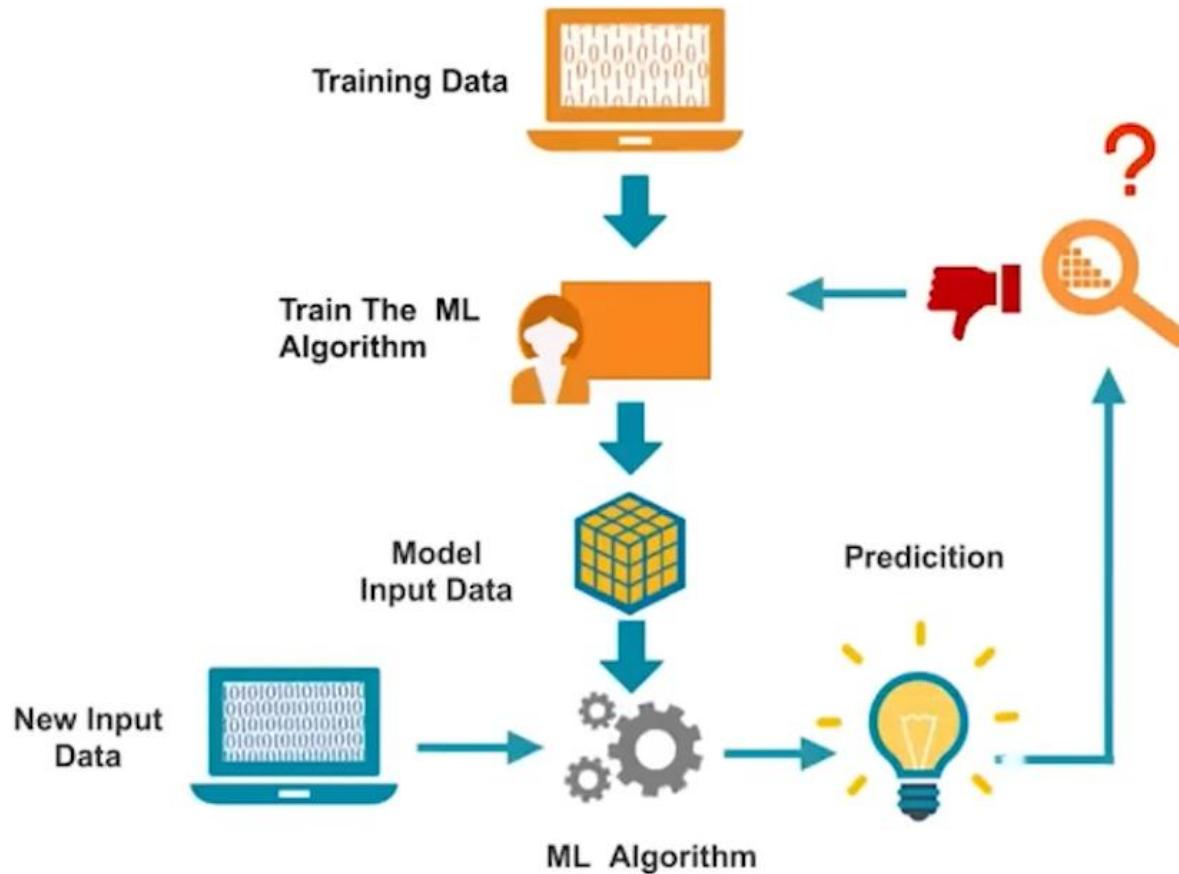


Cos'è un modello di Machine Learning

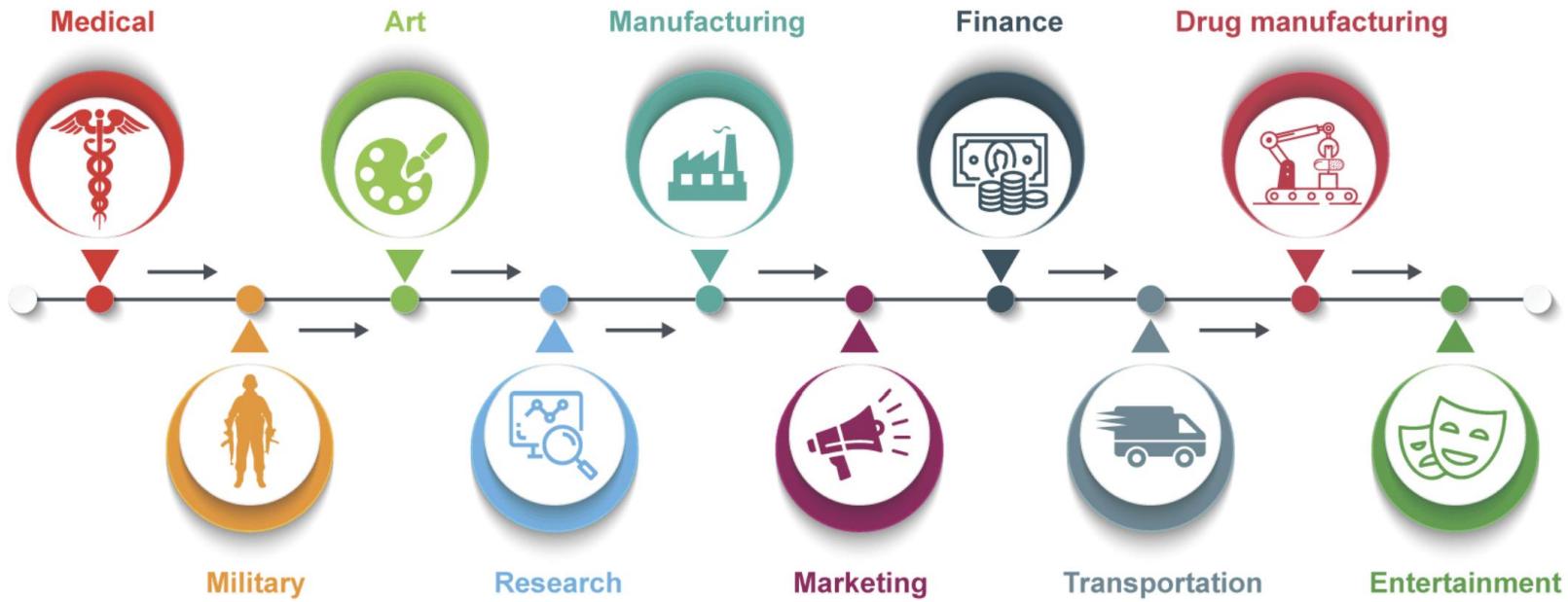


Un modello è una rappresentazione formale di un sistema che ne cattura le caratteristiche essenziali attraverso strutture matematiche o logiche.

Gli algoritmi sono le procedure computazionali che operano sul modello, consentendo di elaborare i dati in ingresso per ottenere risultati secondo le regole definite dal modello stesso.

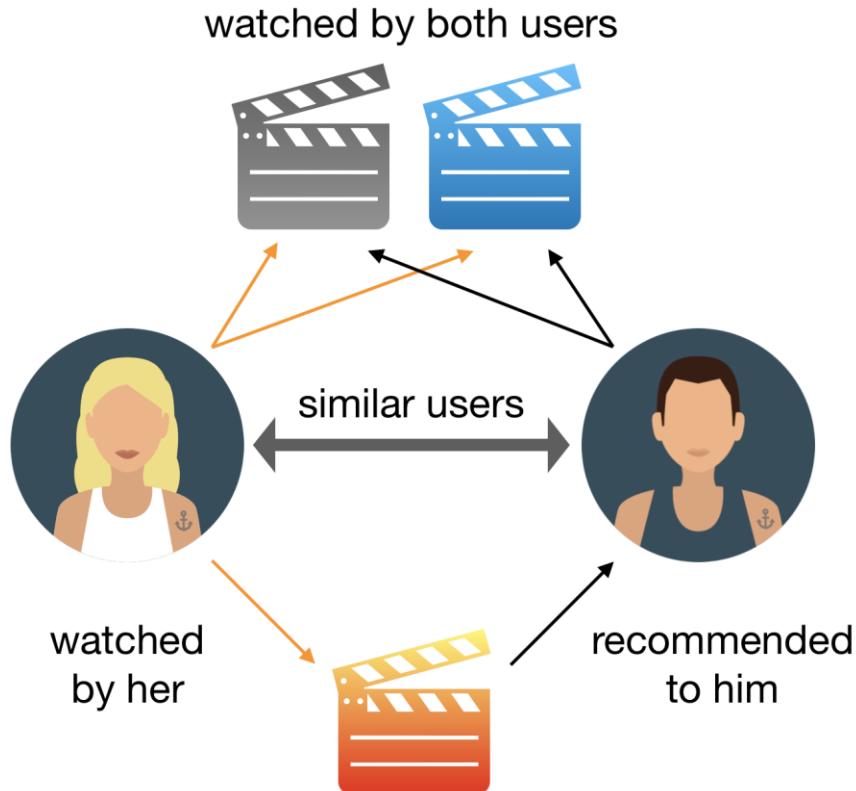


Artificial Intelligence is applicable in a variety of fields such as





RECOMMENDER SYSTEM



Perché solo Oggi?



MAGGIORE POTENZA DI CALCOLO DISPONIBILE

DISPONIBILITA' DI ENORMI QUANTITA' DI DATI



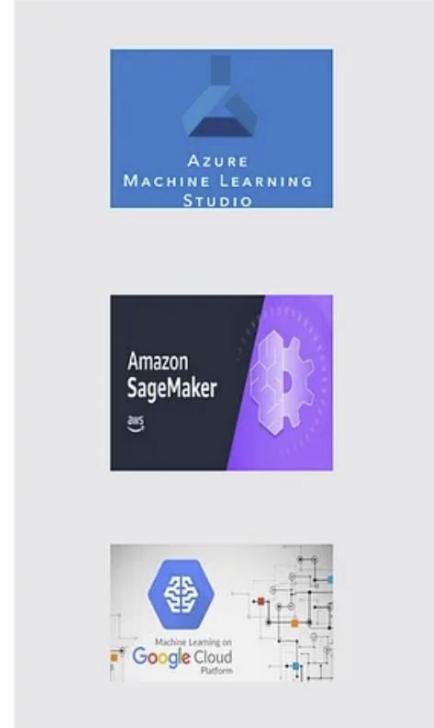
Tool Based Frameworks



Open Source Frameworks



Cloud Based Frameworks

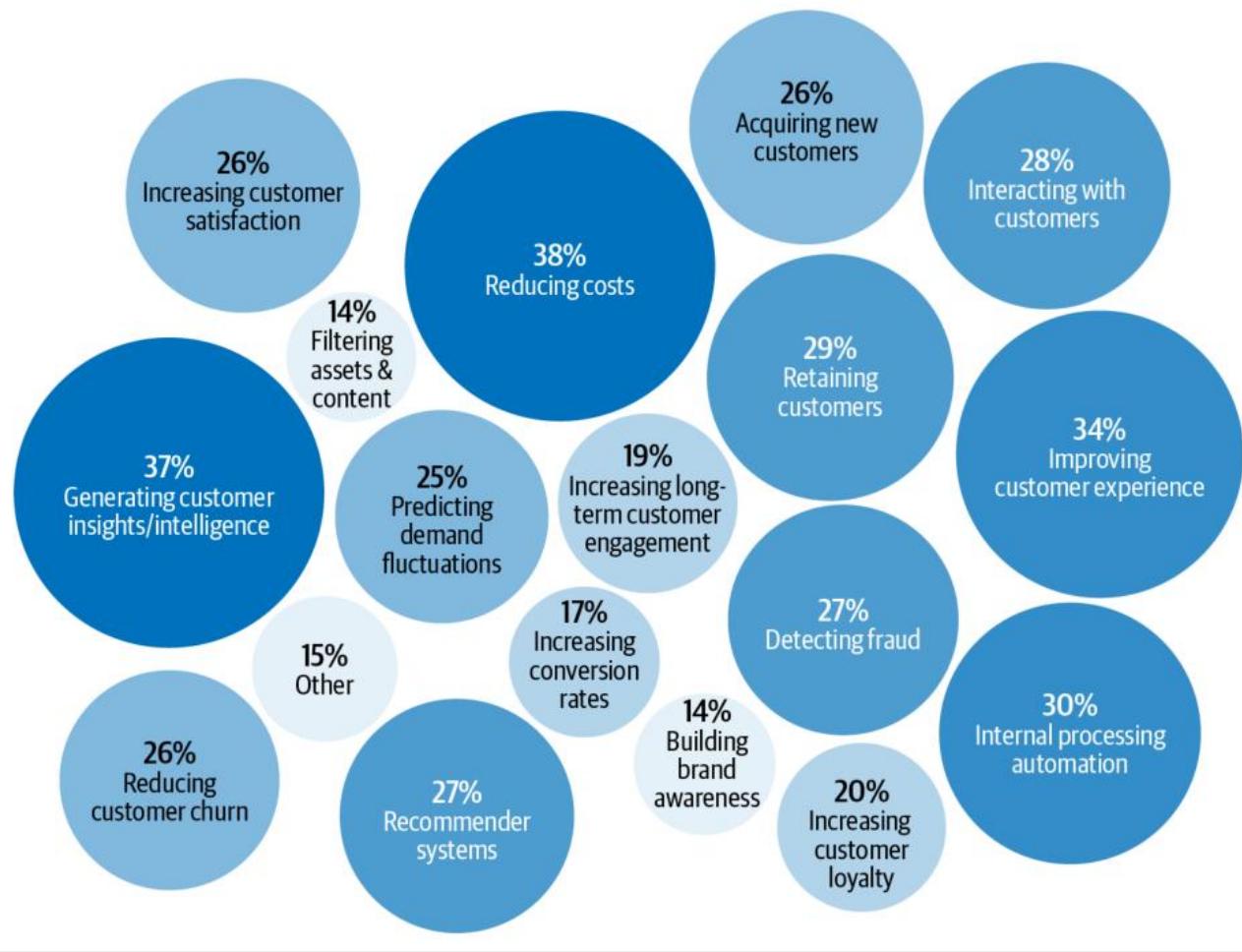


 python

Perché lo si utilizza?

Il machine learning aiuta le aziende a dare un senso ai loro dati, indipendentemente dalla loro dimensione e dal settore di mercato in cui operano.

- Comprendere velocemente le informazioni
- Mostrare i fenomeni che determinano certi andamenti
- Evidenziare i trend emergenti
- Identificare relazioni e pattern nascosti
- Condividere le proprie scoperte con gli altri



Limiti del Machine Learning

Limiti ML Classico su Dati Non Strutturati

IMMAGINI

Non solo pixel ma forme complesse che richiedono filtri convolutivi

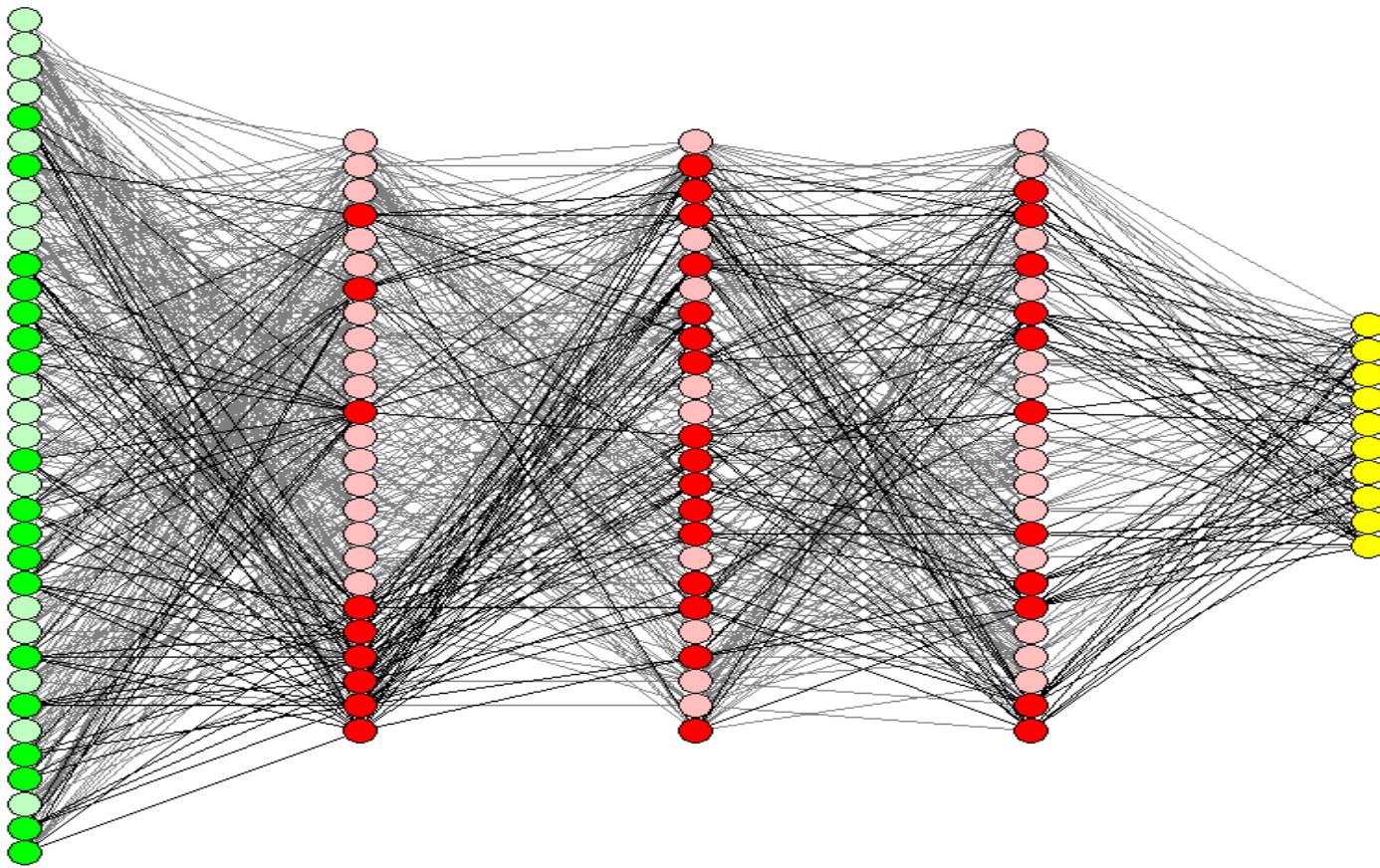
TESTO

Richiede analisi della posizione e del contesto delle parole

ML Classico: Limiti Strutturali

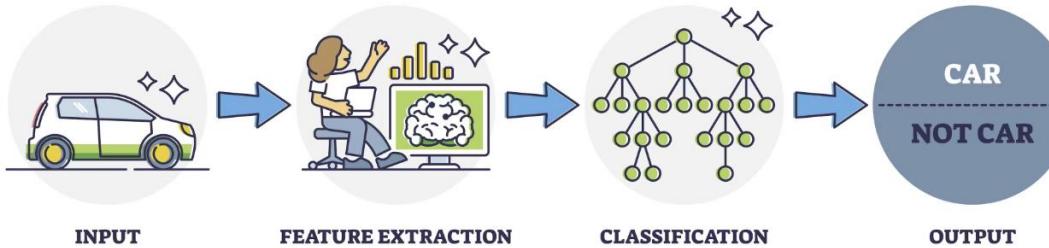
Non può gestire automaticamente le relazioni spaziali e contestuali complesse presenti nei dati non strutturati

DEEP LEARNING



Quali sono i Vantaggi del Deep Learning?

MACHINE LEARNING



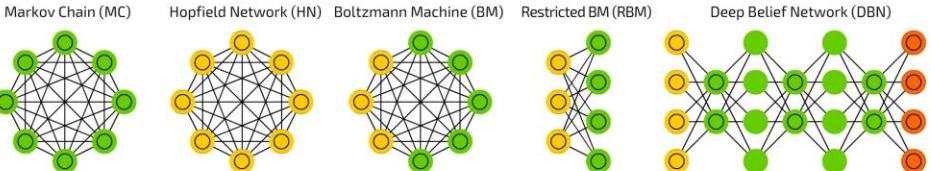
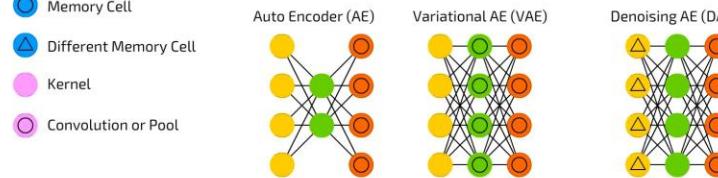
DEEP LEARNING



A mostly complete chart of
Neural Networks

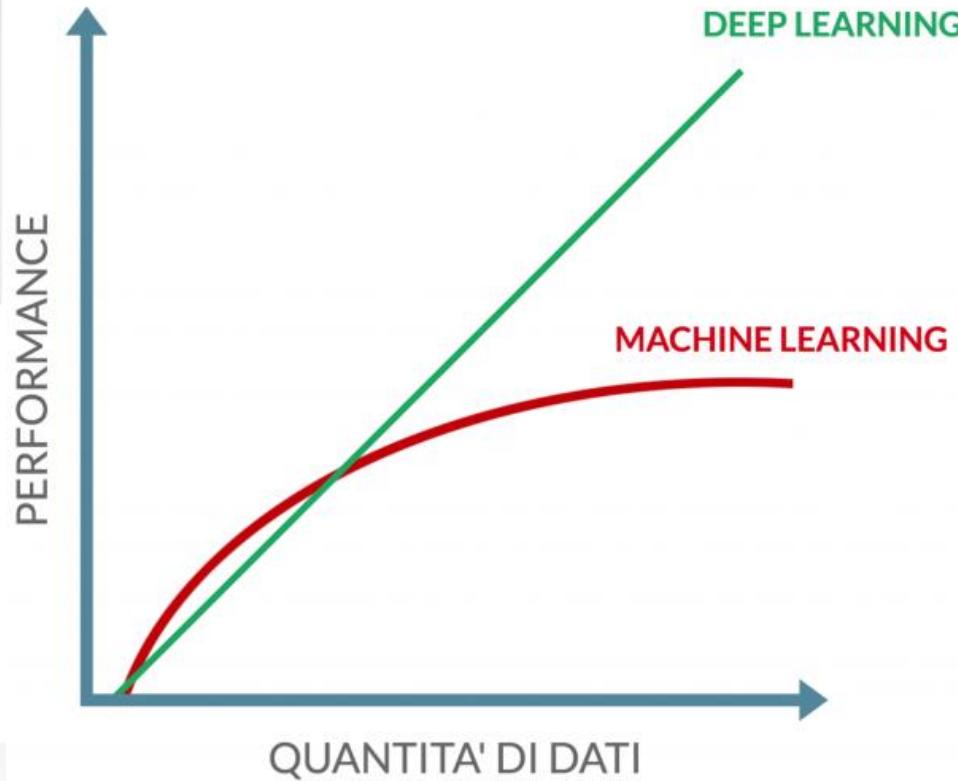
- Backfed Input Cell
- Input Cell
- △ Noisy Input Cell
- Hidden Cell
- Probabilistic Hidden Cell
- △ Spiking Hidden Cell
- Output Cell
- Match Input Output Cell
- Recurrent Cell
- Memory Cell
- △ Different Memory Cell
- Kernel
- Convolution or Pool

©2016 Fjodor van Veen - asimovinstitute.org

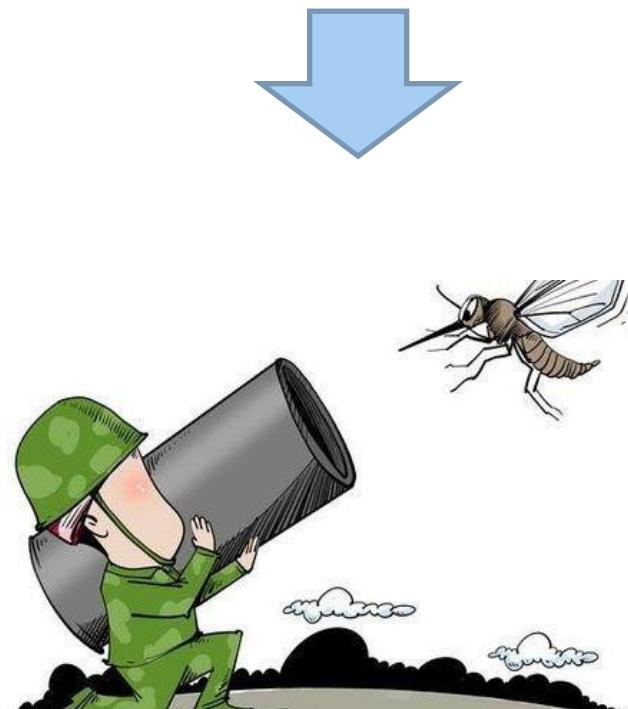


<https://setosa.io/ev/image-kernels/>

<https://playground.tensorflow.org/>



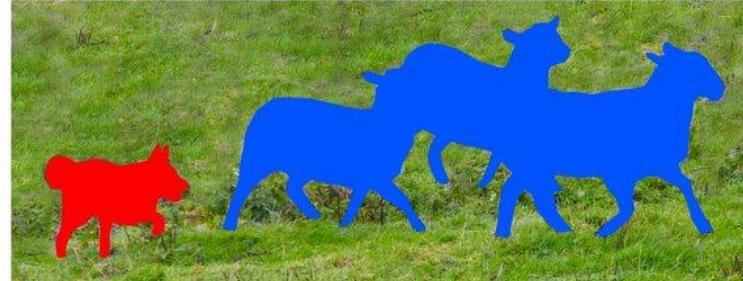
SIMPLE PROBLEM WITH NEURAL NETWORKS



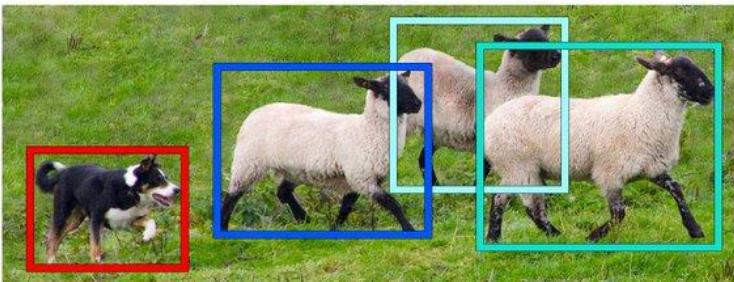
Computer Vision



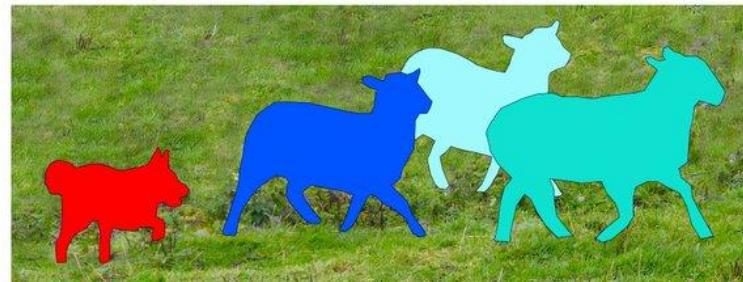
Image Recognition



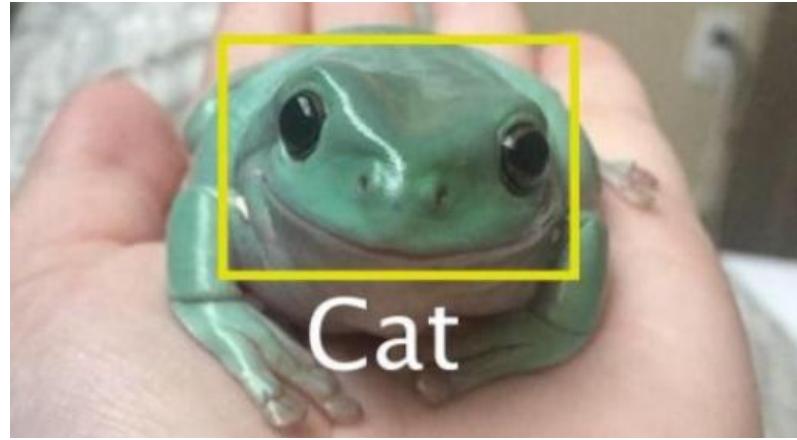
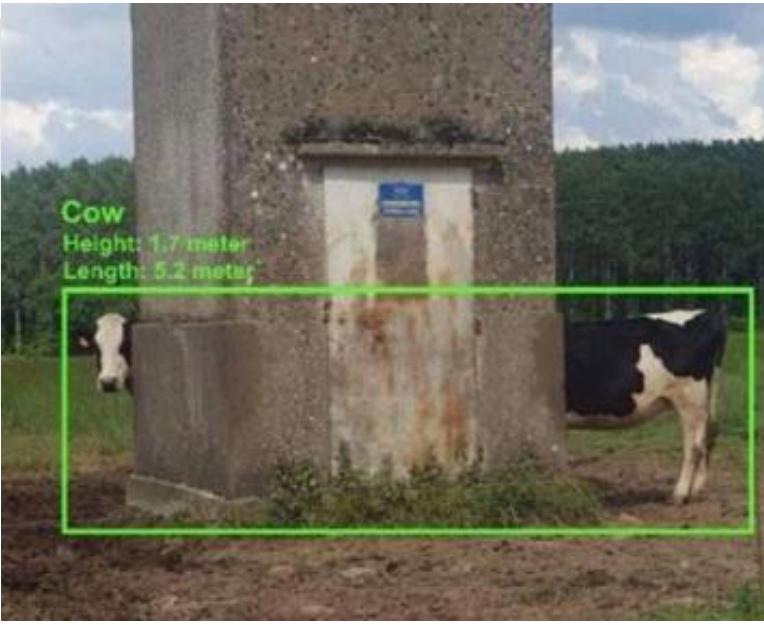
Semantic Segmentation



Object Detection



Instance Segmentation



DISCRIMINATIVE

vs.

GENERATIVE

Discriminative Model

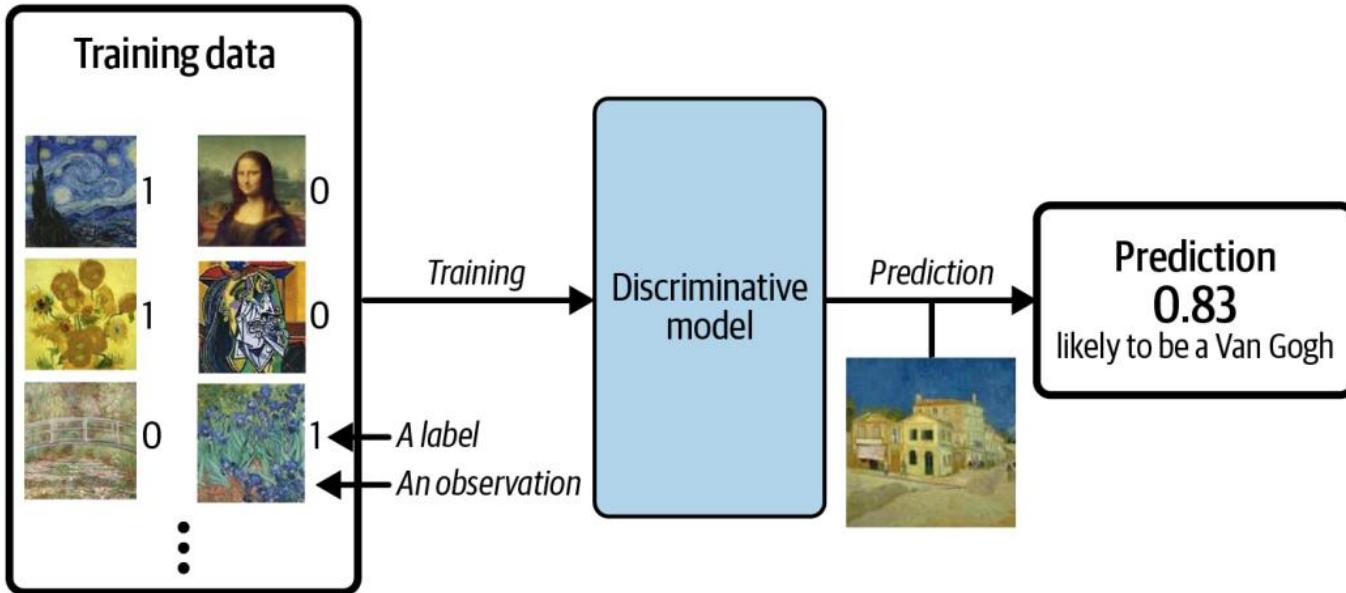


Figure 1-2. A discriminative model trained to predict if a given image is painted by Van Gogh

What Is Generative Modeling?

Generative modeling can be broadly defined as follows:

Generative modeling is a branch of machine learning that involves training a model to produce new data that is similar to a given dataset.

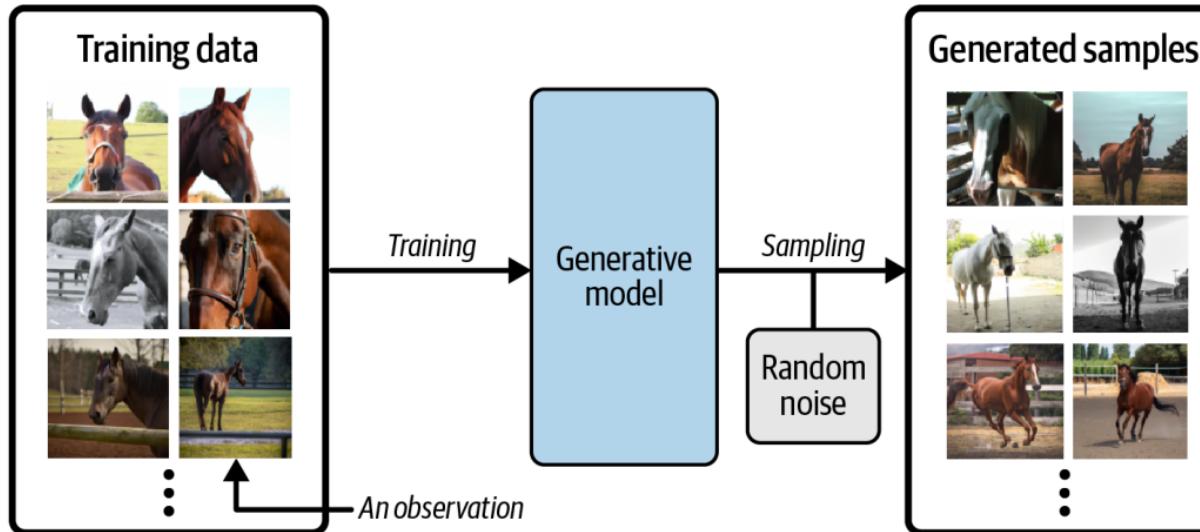
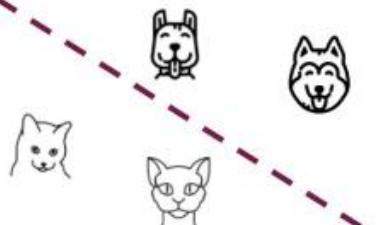


Figure 1-1. A generative model trained to generate realistic photos of horses

Generative Models vs. Discriminative Models

Discriminative models



Features Class

$$X \rightarrow Y$$

$$P(Y|X)$$

Generative models

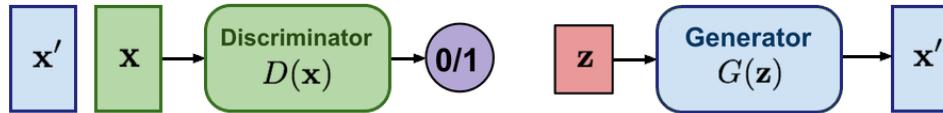


Noise Class Features

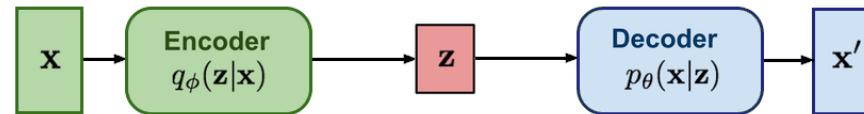
$$\xi, Y \rightarrow X$$

$$P(X|Y)$$

GAN: Adversarial training

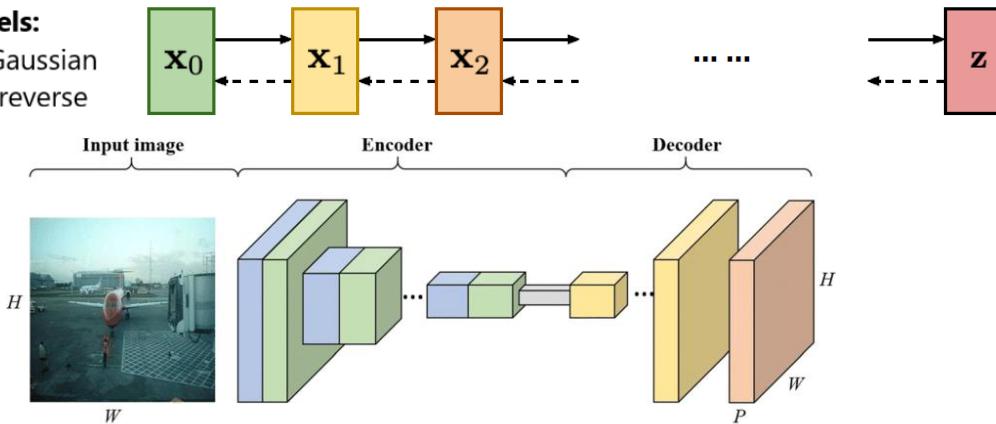


VAE: maximize variational lower bound



Diffusion models:

Gradually add Gaussian noise and then reverse



	Convolutional layer
	Pooling layer
	Upsampling layer
	Decoder outputs (pixel-wise feature maps)
	Encoder outputs



STABLE DIFFUSION XL

SDXL 1.0: A Leap Forward in AI Image Generation

A portrait of a cartoon purple cow, high definition, digital art



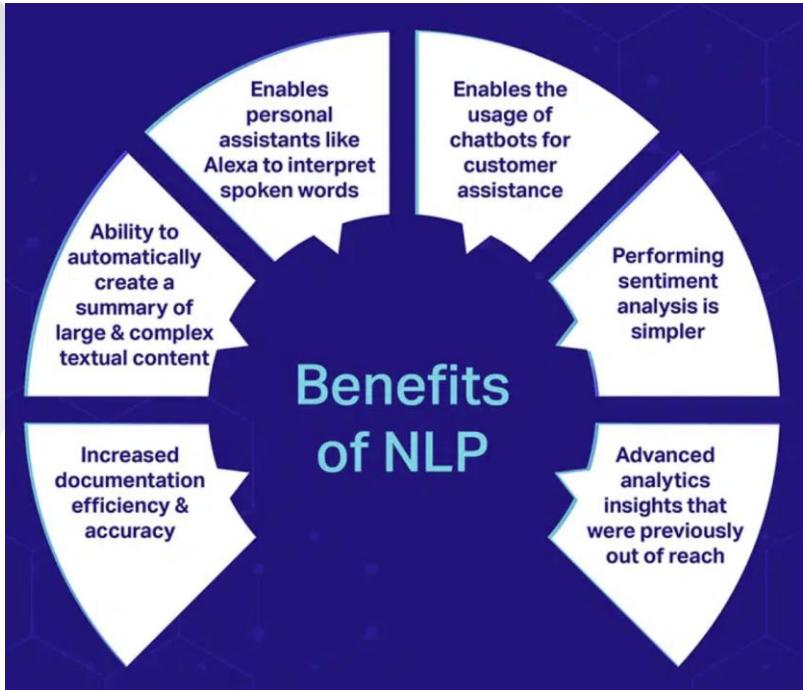
Generate





NLP Market Size & Growth

NLP market is set to reach **\$156.80 billion** by 2030, growing at a CAGR of **27.55%**. Over **85%** of large organizations plan to adopt NLP by 2025, driven by various factors.



Challenges



Misspellings



Language Differences



Innate Biases



Words with
Multiple Meanings



Uncertainty and
False Positives



Training
Data

Application of Text Classification

Sentiment Analysis

Text sentiment, categorizing content as positive, negative, or neutral.

Spam Detection

Identify and filter out spam emails or messages by analyzing their content and characteristics, enhancing communication security.

Topic Labeling

Automatically assigning topics or categories to documents, making content organization and retrieval more efficient.

Language Identification

Detect the language in which a text is written, which is useful for multilingual content processing and translation.

News Categorization

News articles to be categorized into sections like politics, technology, sports, etc., improving content organization for readers.

Product Classification

E-commerce platforms use NLP for product categorization, ensuring items are correctly labeled and presented to customers.

Customer Feedback Analysis

Customer reviews and feedback to extract insights, understand customer satisfaction and areas of improvement.

Medical Document Classification

Categorizing medical records, research papers, and patient notes, assisting in efficient data retrieval for healthcare professionals.

Legal Document Categorization

Law firms use NLP to classify legal documents, making managing and retrieving information from large databases easier.

Social Media Monitoring

NLP tracks and classifies social media posts, tweets, and comments, allowing brands to monitor their online presence and engage with users.

Fraud Detection

Classify financial texts to detect fraudulent activities and identify potential risks.

Resume Screening

Resume screening by categorizing job applications based on skills, experience, and qualifications.

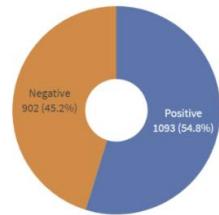
Content Recommendation

Recommending relevant articles, blogs, or products to users based on their interests.

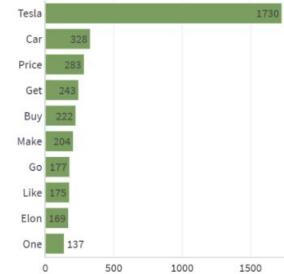


All Positive 😊 Negative 😥

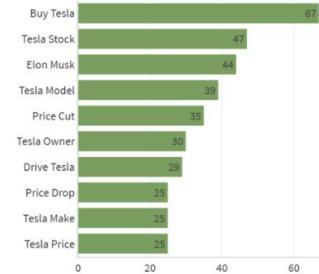
Sentiment Distribution



Top 10 Occuring Words



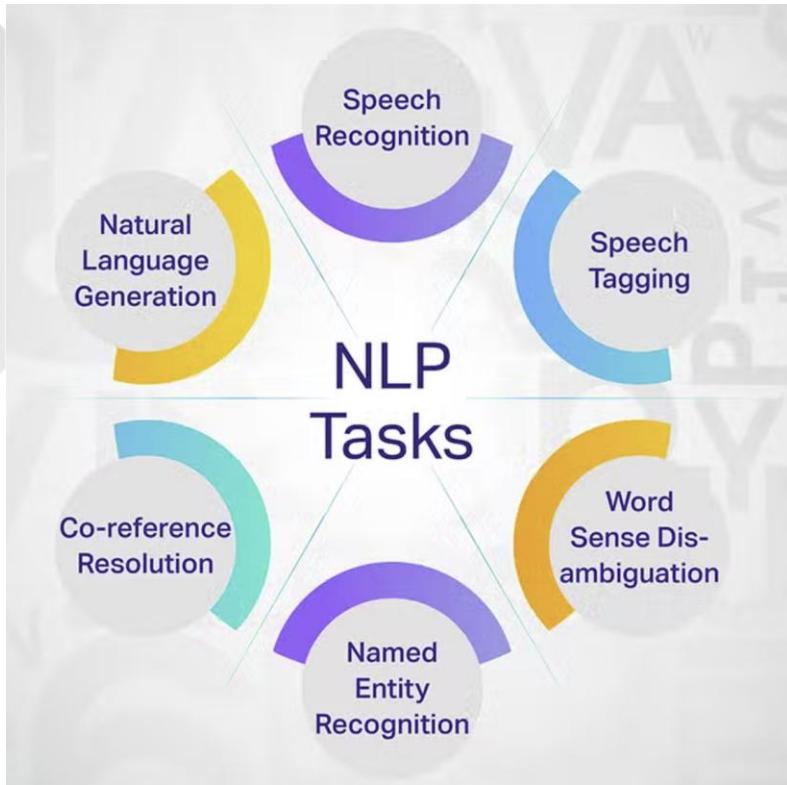
Top 10 Occuring Bigrams



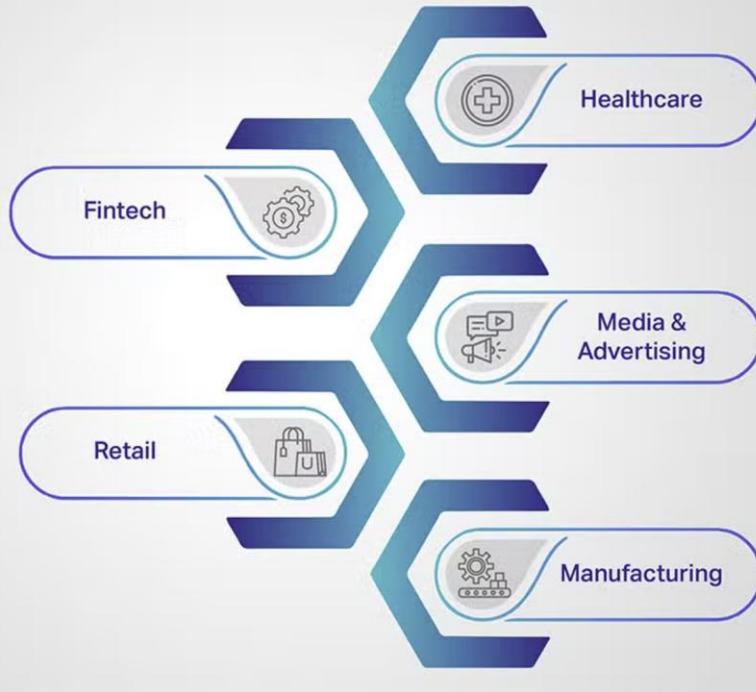
	Sentiment	Tweet
0	Negative	@YatinKheti @scidood Again it sounds like some limited release stuff and not re
1	Negative	@3RumsDeep @Tesla @elonmusk @montana_skeptic any bets on if this has ar
2	Negative	@ValueAnalyst1 Tesla's demo was obviously hacked together. You can't be that
3	Positive	@rmcadory @farzyness @GM @Toyota @Ford @Tesla Tesla doubling every 12 t
4	Negative	Well good news from yesterday is the amount I would get for my truck is higher
5	Negative	@alphadoge777 @elonmusk @Tesla @mayemusk Exactly.
6	Positive	I don't like asking for many favors. But this is a time where I am going to need y
7	Negative	@farzyness Redo: you need to compare global to global. Tesla sells 1.3m globa
8	Positive	@stevenward @Tesla Sweet feelings:) Such a lovely pic 😍

Wordcloud





Industries Leveraging NLP



Healthcare

NLP offers rewarding benefits to the healthcare industry such as:

- the extraction insights from medical records and analysis of unstructured data
- Improve and personalize clinical decision support systems
- Optimize responses from chatbots for seamless patient care experiences
- Monitor, predict, and mitigate adverse drug reactions and implement pharmacovigilance strategies and more

Fintech

The implications of NLP in fintech is completely different, offering benefits like:

- Seamless document processing and onboarding
- Optimize risk management and fraud detection
- Assessment of creditworthiness of individuals for financing
- Personalization of financial products in terms of tenures and premiums and more

Embeddings



Embedding

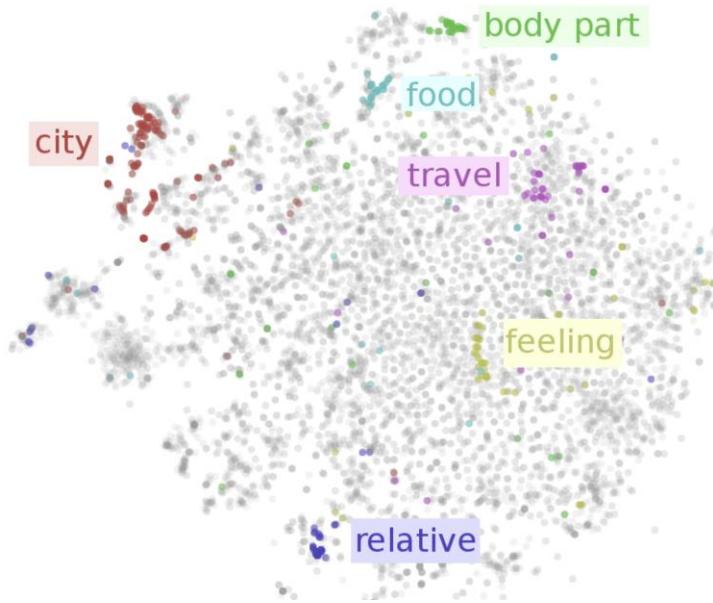
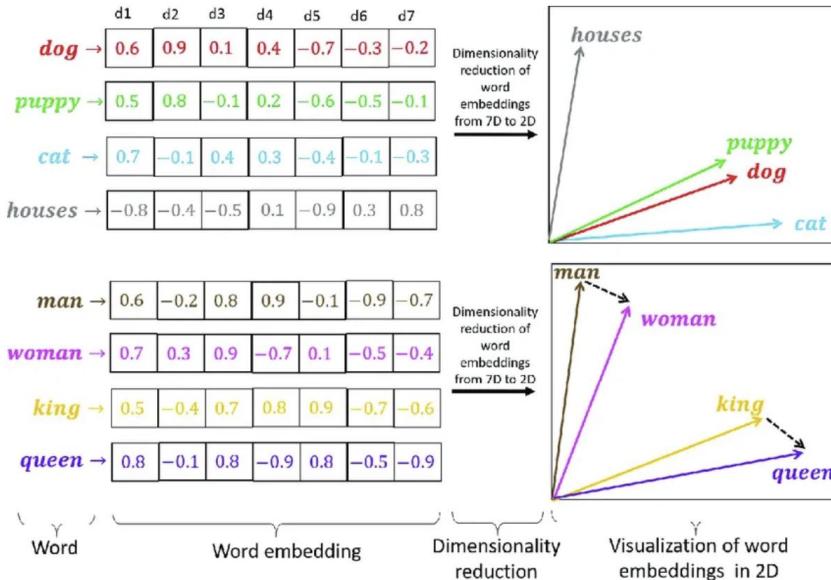
anatine amigos

Text

Embedding
model

-0.027 -0.001 -0.020 ... -0.023

Text as vector



<https://projector.tensorflow.org/>

Transformers

6 Dec 2017

Attention Is All You Need

Ashish Vaswani*
Google Brain
avaswani@google.com

Noam Shazeer*
Google Brain
noam@google.com

Niki Parmar*
Google Research
nikip@google.com

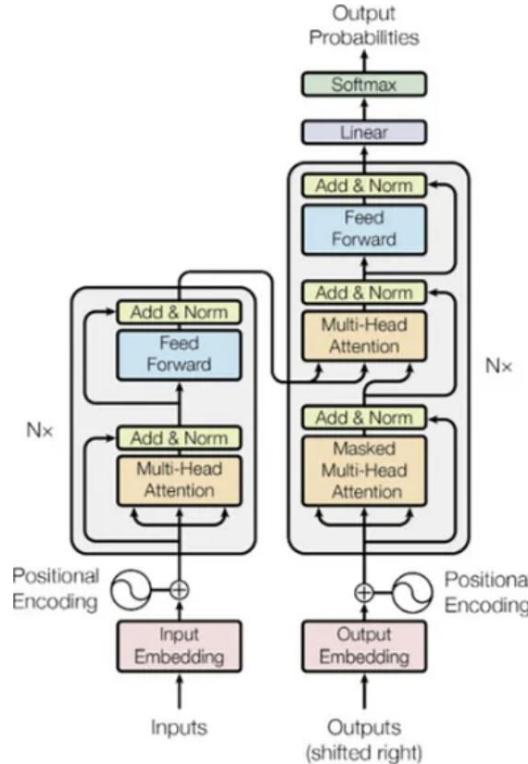
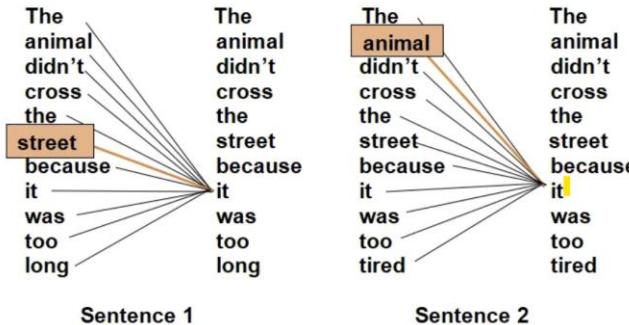
Jakob Uszkoreit*
Google Research
usz@google.com

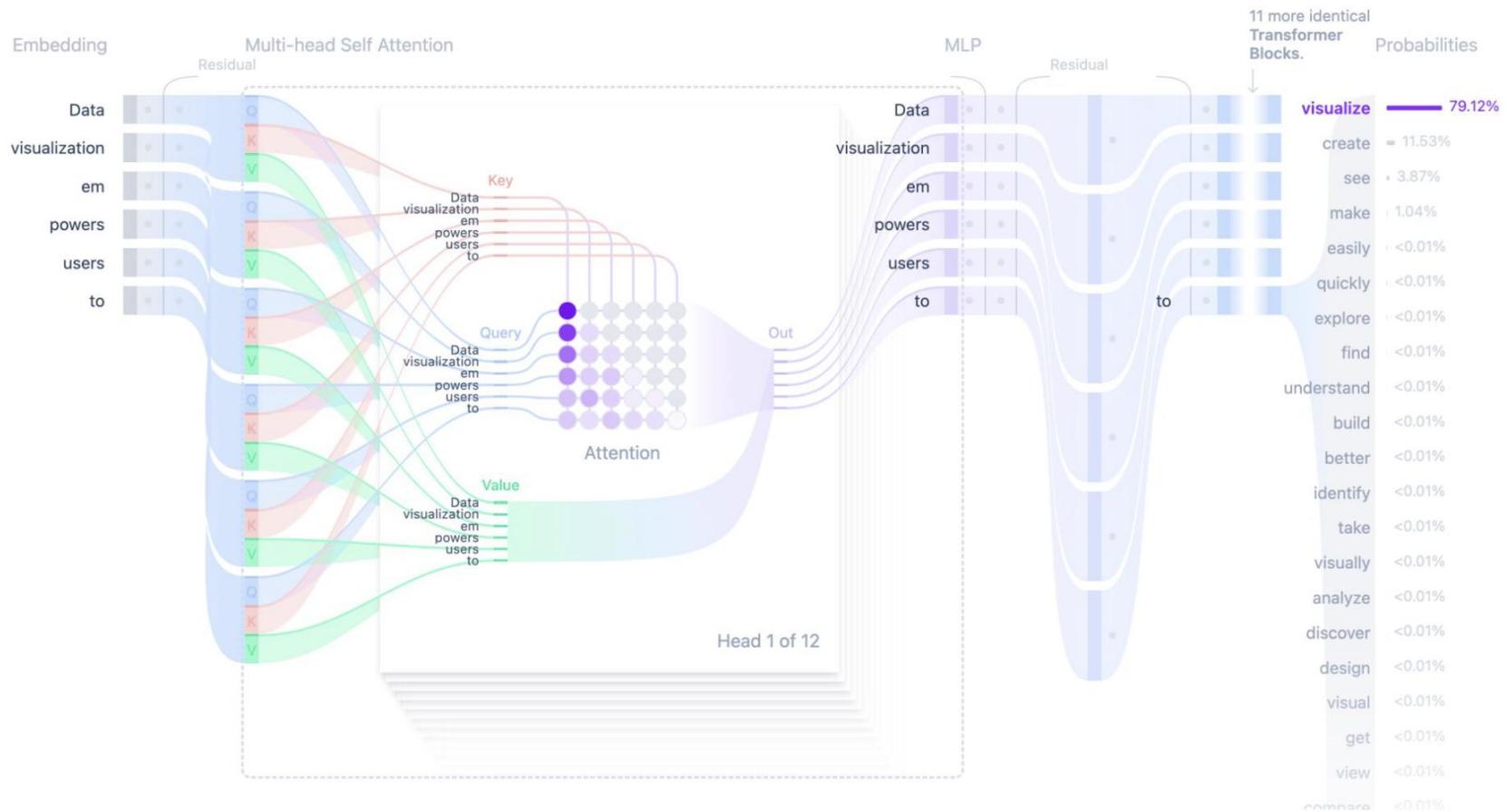
Llion Jones*
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aidan@cs.toronto.edu

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Google Brain
lukasz.kaiser@google.com

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illia.polosukhin@gmail.com

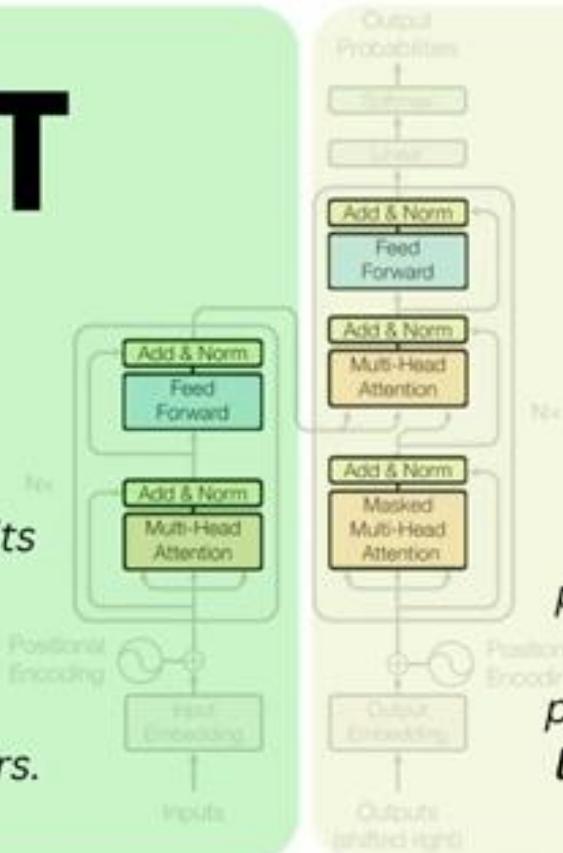




BERT

Google

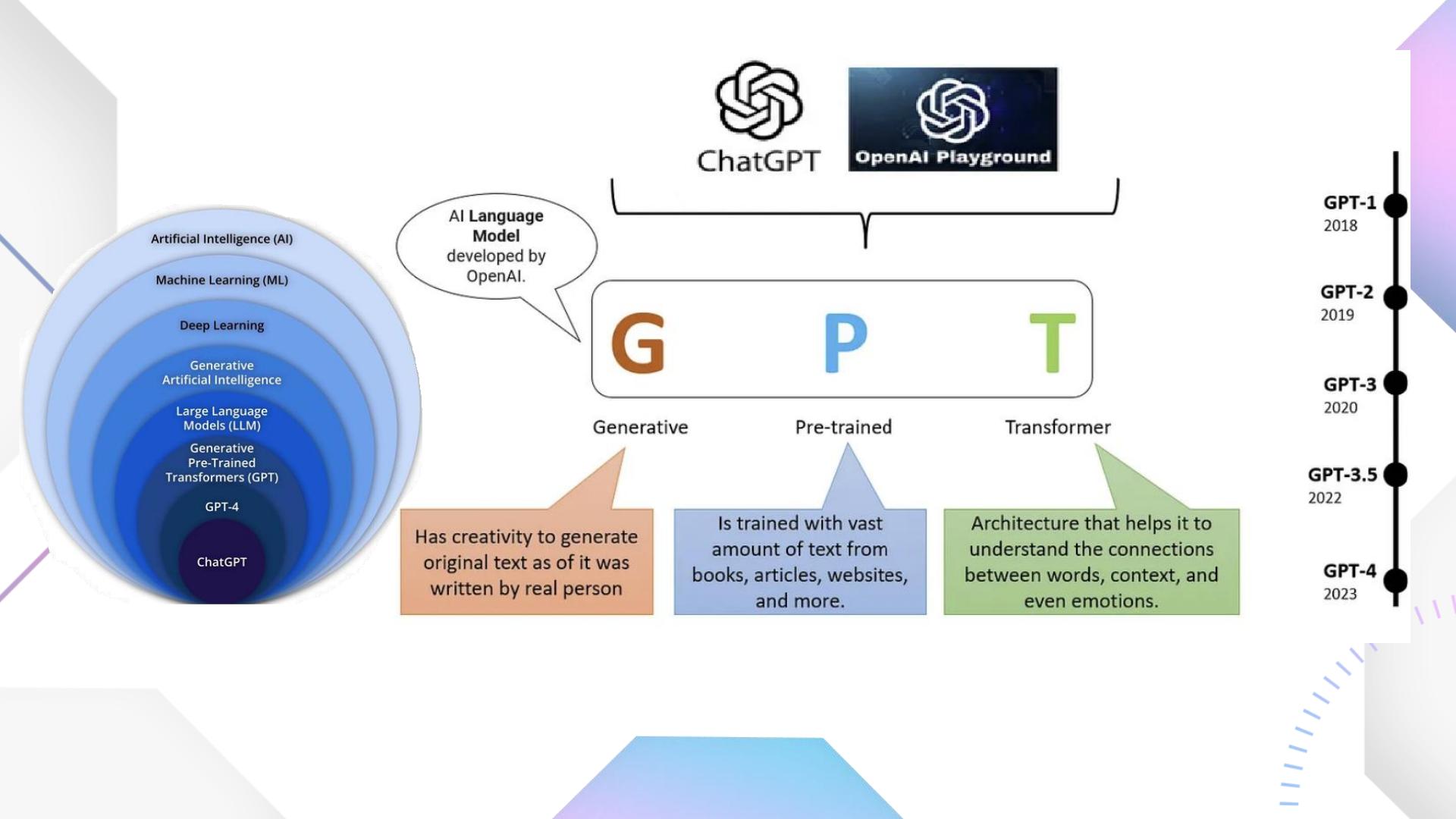
*use transfer learning to **continue** learning from its existing data when adding user-specific tasks and layers.*

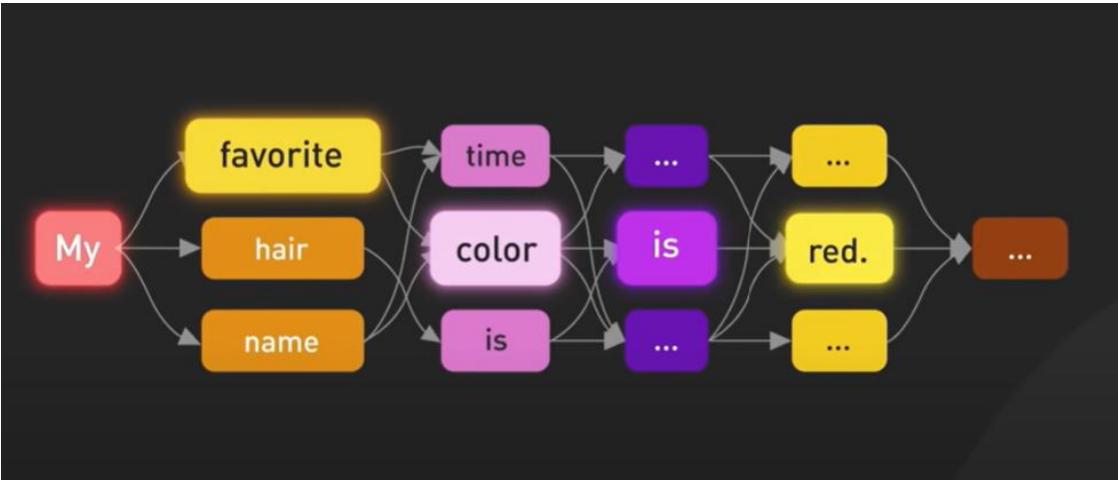


GPT

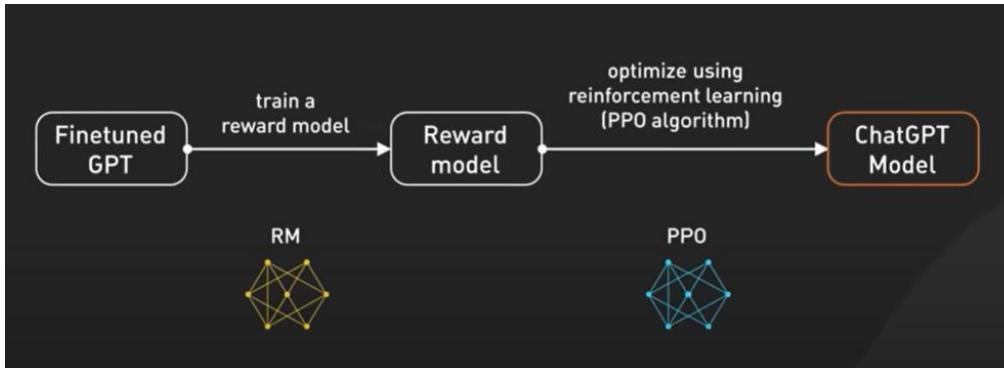
OpenAI

*decodes from its massive pre-learned embeddings to present output that matches user prompts. It does **not** learn anything new.*





Reinforcement Learning with Human Feedback



LLM

LARGE LANGUAGE MODEL

Text Training Data

Web Data

Books

Images converted to text

Structural Data



Training

Large Language Model

Adaption

Adaptations

Question Answering

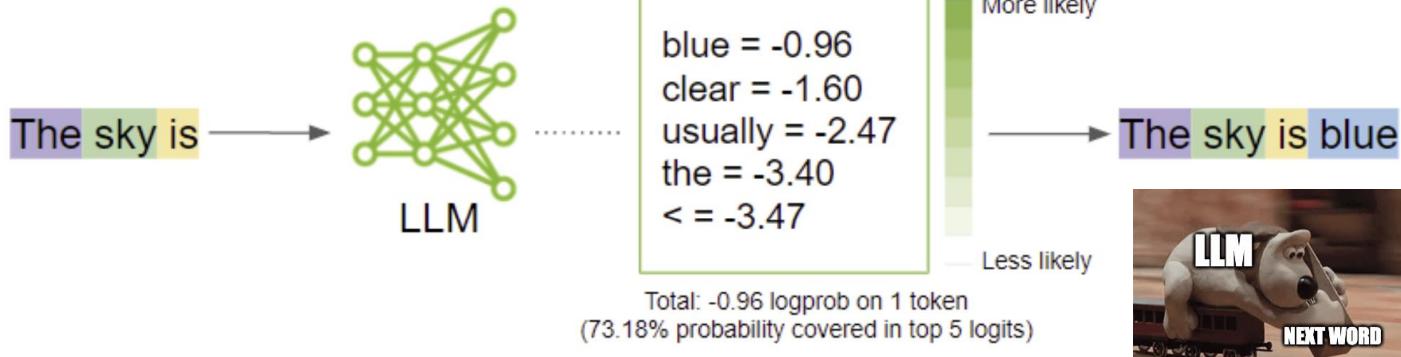
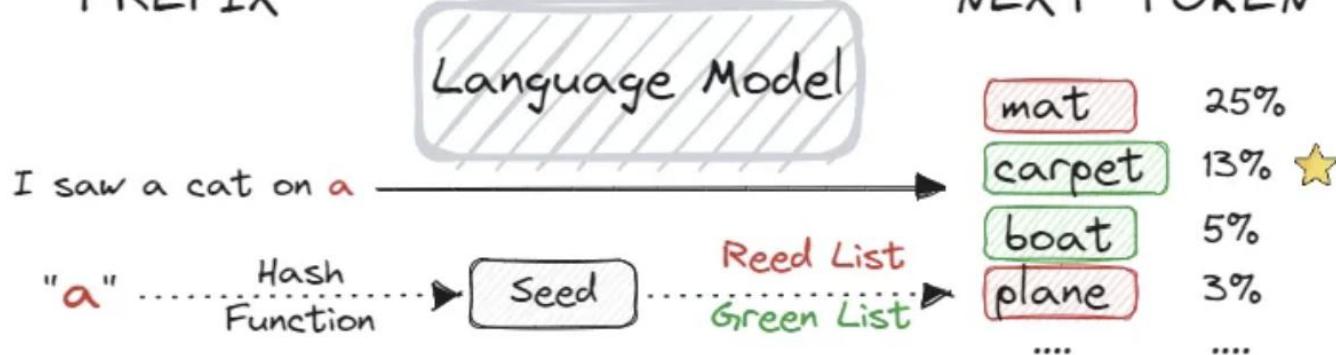
Sentient Analysis

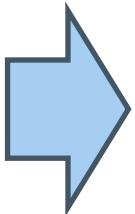
Information Summarization

Planning

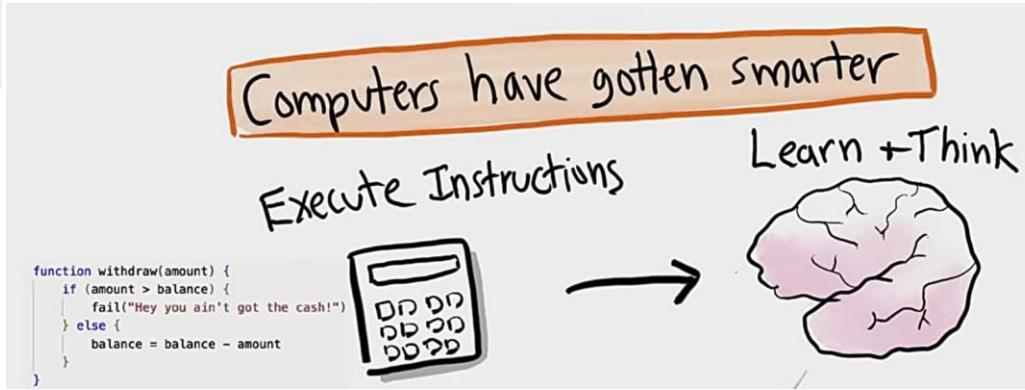
Language Translation

PREFIX

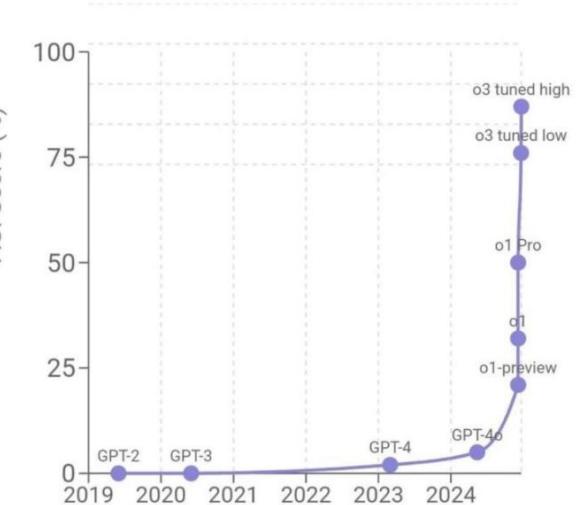




Generative AI



ARC AGI Score Progression





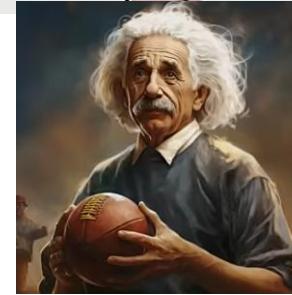
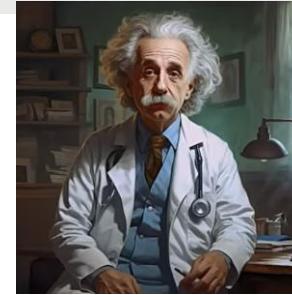
You

What are you? Explain in 1 sentence to a 10 year old.

ChatGPT

I'm like a super smart robot that can answer lots of questions and help with all sorts of things, kind of like a really helpful genie in a computer!

Einstein in your basement

A cartoon illustration of Albert Einstein sitting at a desk, looking slightly worried or confused. A speech bubble above him contains his response to the question about what ChatGPT is.

Limiti umani:

- Fare errori
- Giungere a conclusioni affrettate
- Può faintendere
- Inventarsi soluzioni che non esistono (allucinazioni)

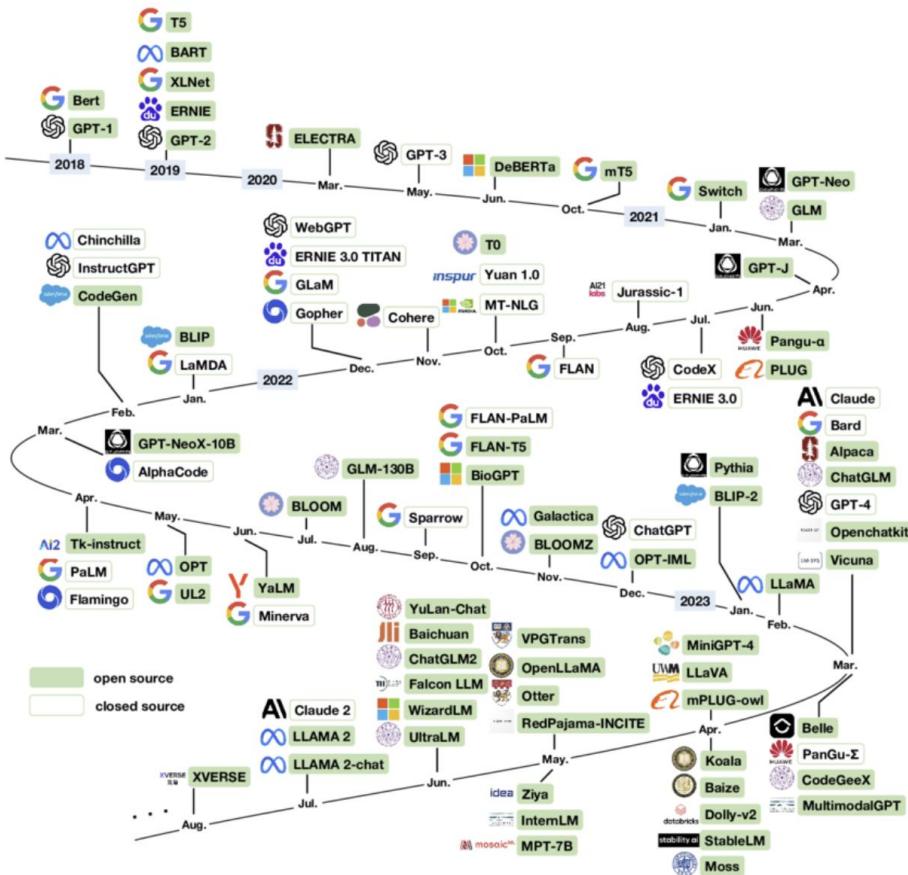
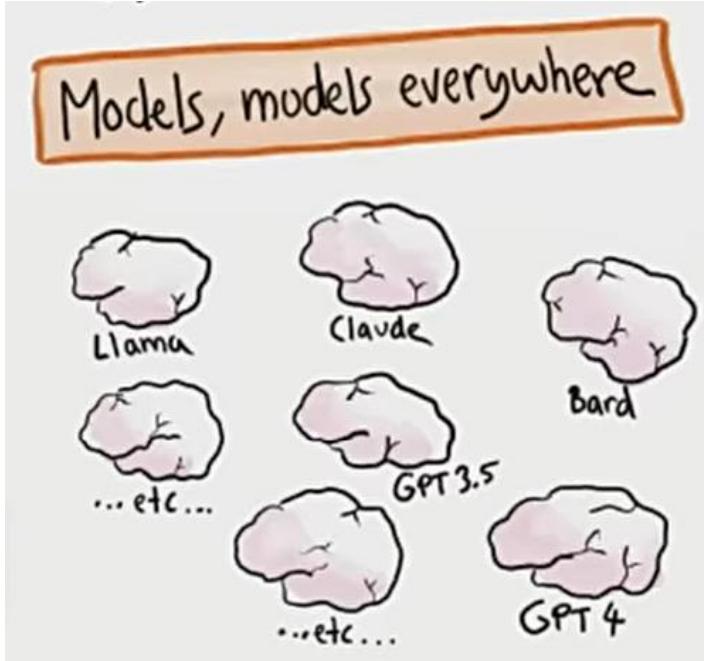
Biggest limitation
is you

Imagination

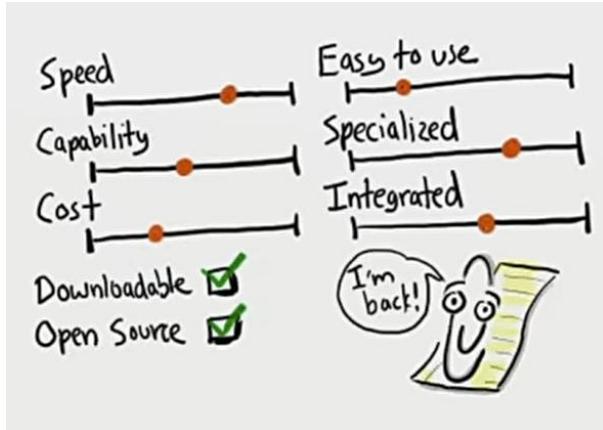
What can I do?

Prompt Engineering skills

How do I do it?



Open-Source Vs. Close-Source LLMs



Features



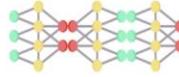
Cost

Innovation

Support

Customization

Open-Source LLMs



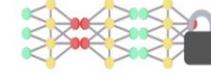
Lower initial cost but possibly higher maintenance.

Collaborative and fast innovation from a global community.

Reliant on community-based support, which can be extensive but inconsistent.

Highly customizable with access to source code.

Close-Source LLMs

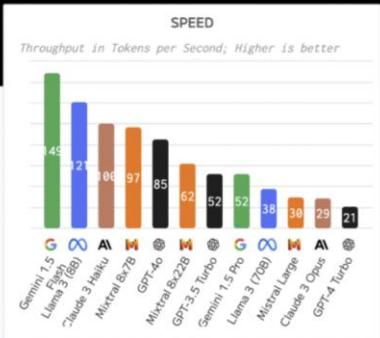


Higher initial cost but lower maintenance.

Slower innovation directed by a single entity.

Consistent and quality support offered through dedicated channels.

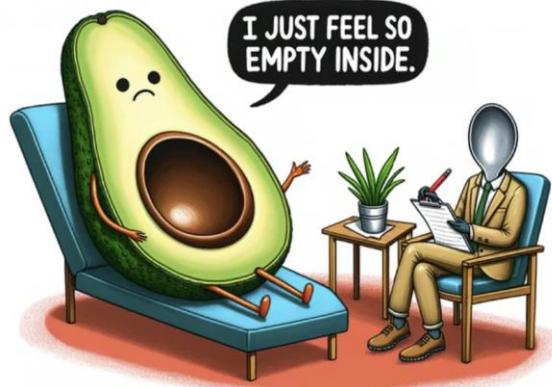
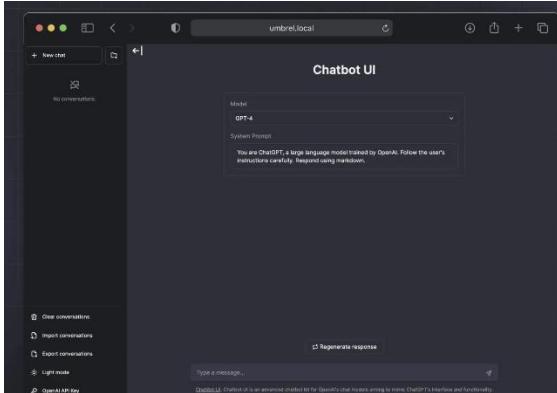
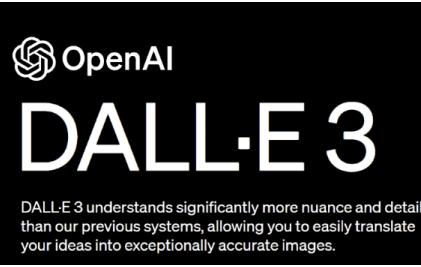
Customization possible within the platform's limits.



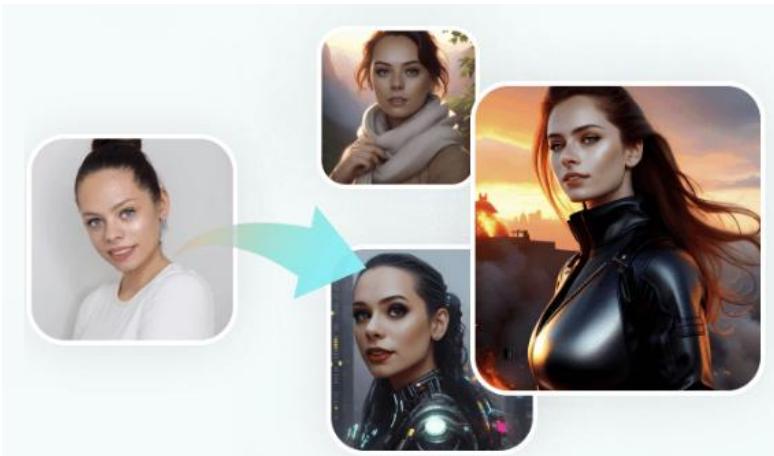
Model Types

Text to Text

Text to Image



Model Types



What are we looking at here?

✓ Analyzing the image: Privacy blur hides faces from Bing chat

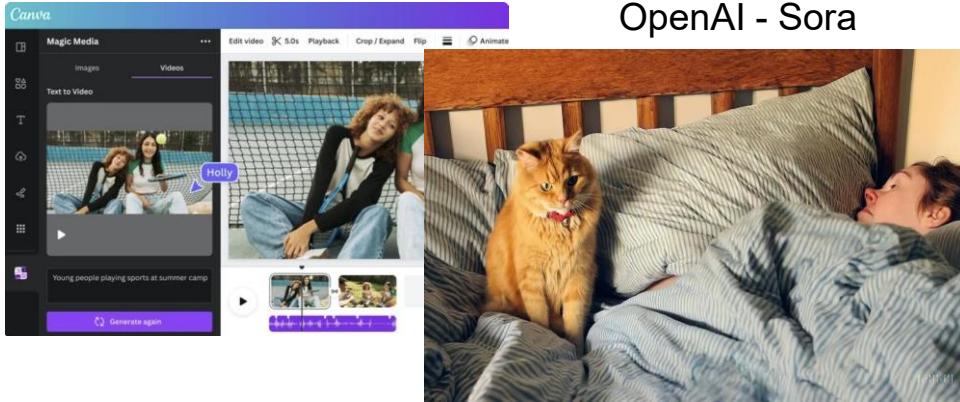
The image you're seeing is quite intriguing. It features a person sitting cross-legged on a grassy field, holding a large, oval-shaped mirror with a gold frame. The person's face is blurred out, maintaining their privacy. The mirror reflects the surrounding environment, adding an interesting perspective to the scene. The backdrop of the image is a grassy field with trees in the distance, contributing to the overall serene and tranquil atmosphere. The image has a dark and moody tone, which adds a layer of depth and emotion to it. It's a beautiful blend of nature and human presence. don't you think?

Model Types

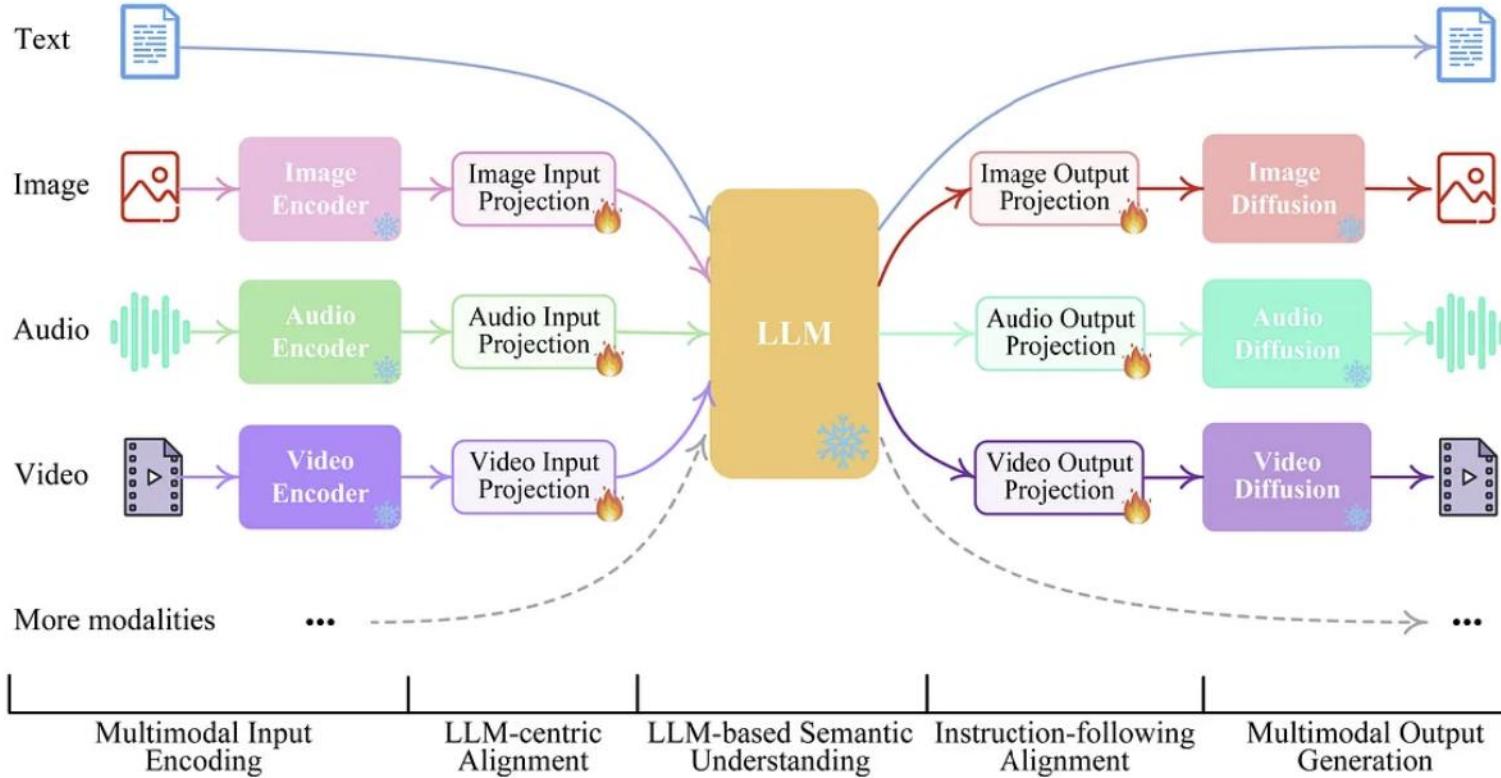
Text to Video

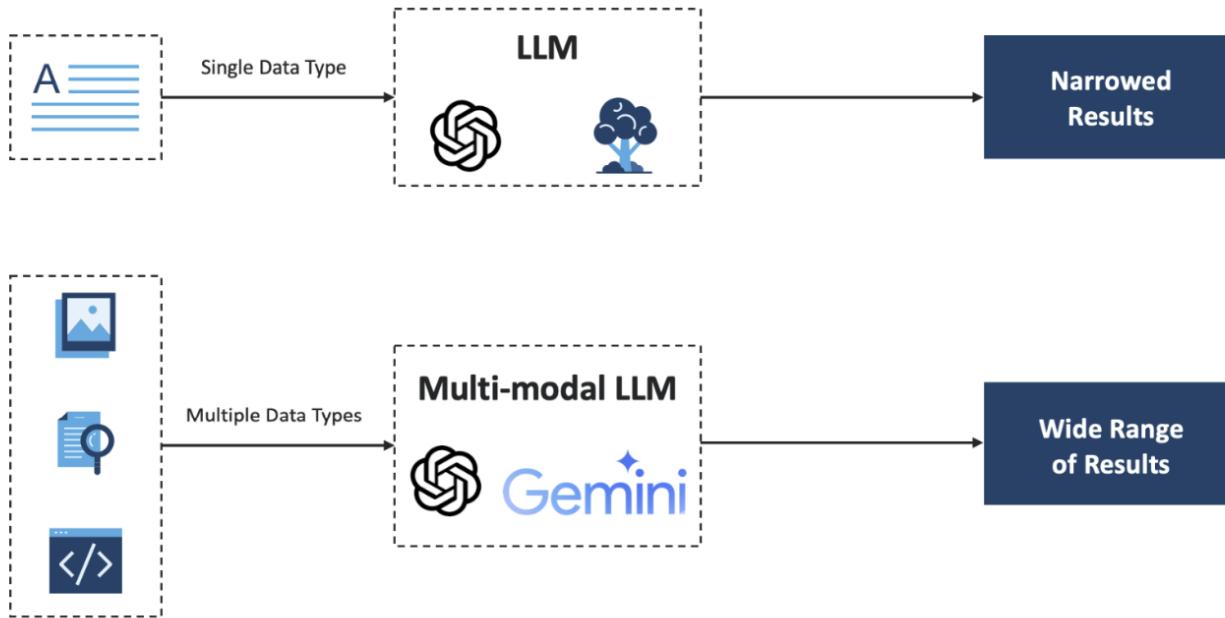
Speech to Text

Text to Speech



Multi- Modality





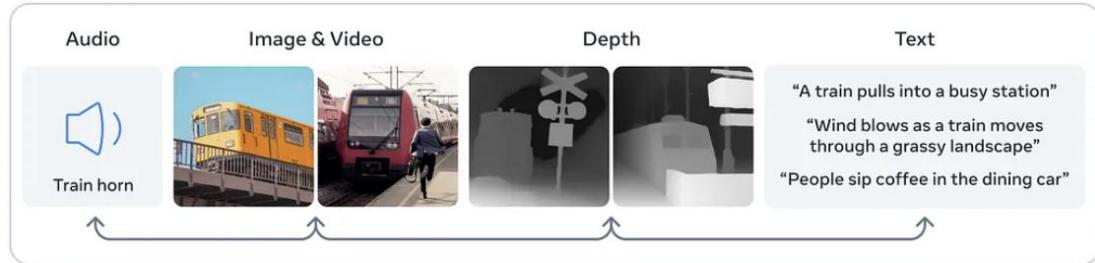
Comprendere contestuale

- Analisi simultanea di testo e immagini
- Interpretazione più accurata del contesto completo

Versatilità applicativa

- Assistenza visiva in vari campi (medicina, architettura)
- Supporto decisionale basato su dati multimodali

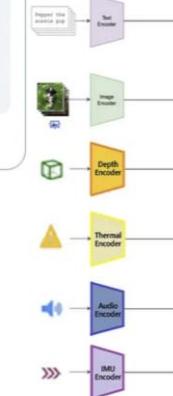
Cross-modal retrieval



Embedding-space arithmetic



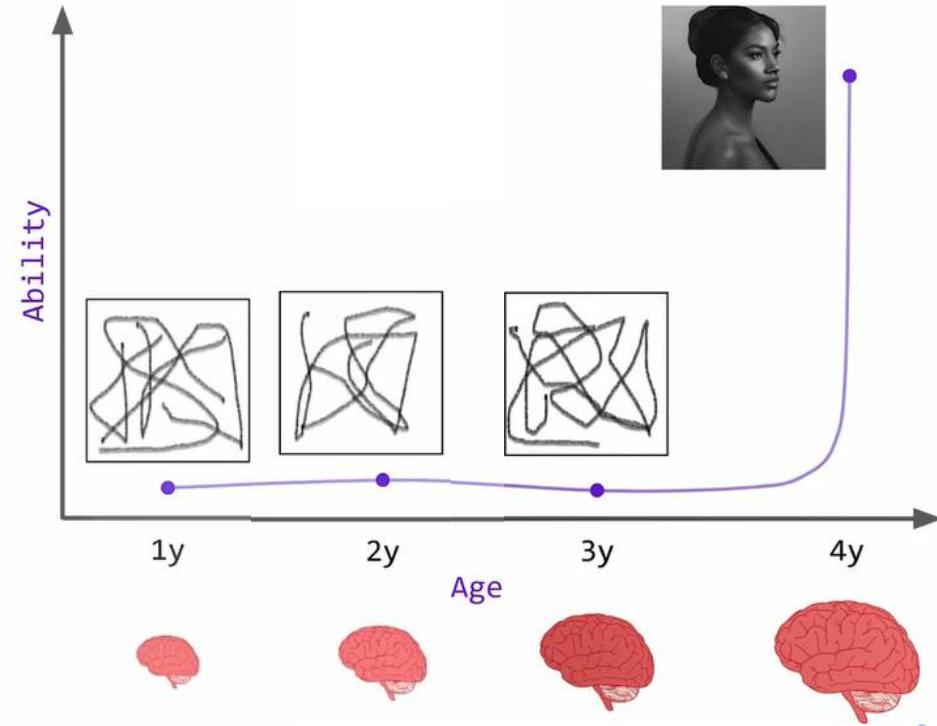
Audio to image generation

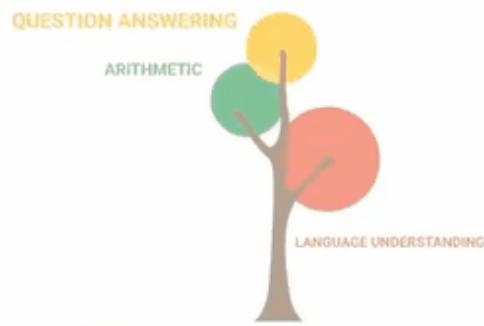


I ₁ -T ₁	I ₁ -T ₂	I ₁ -T ₃	...	I ₁ -T _N
I ₂ -T ₁	I ₂ -T ₂	I ₂ -T ₃	...	I ₂ -T _N
I ₃ -T ₁	I ₃ -T ₂	I ₃ -T ₃	...	I ₃ -T _N
:	:	:	..	:
I _N -T ₁	I _N -T ₂	I _N -T ₃	...	I _N -T _N

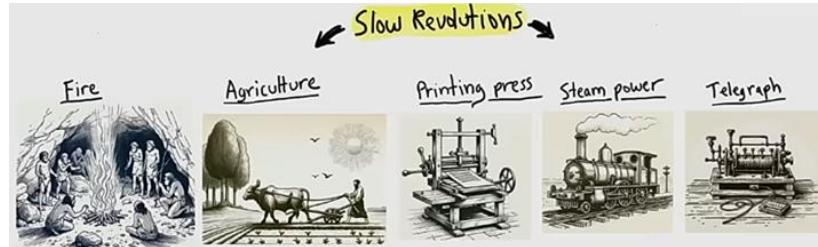
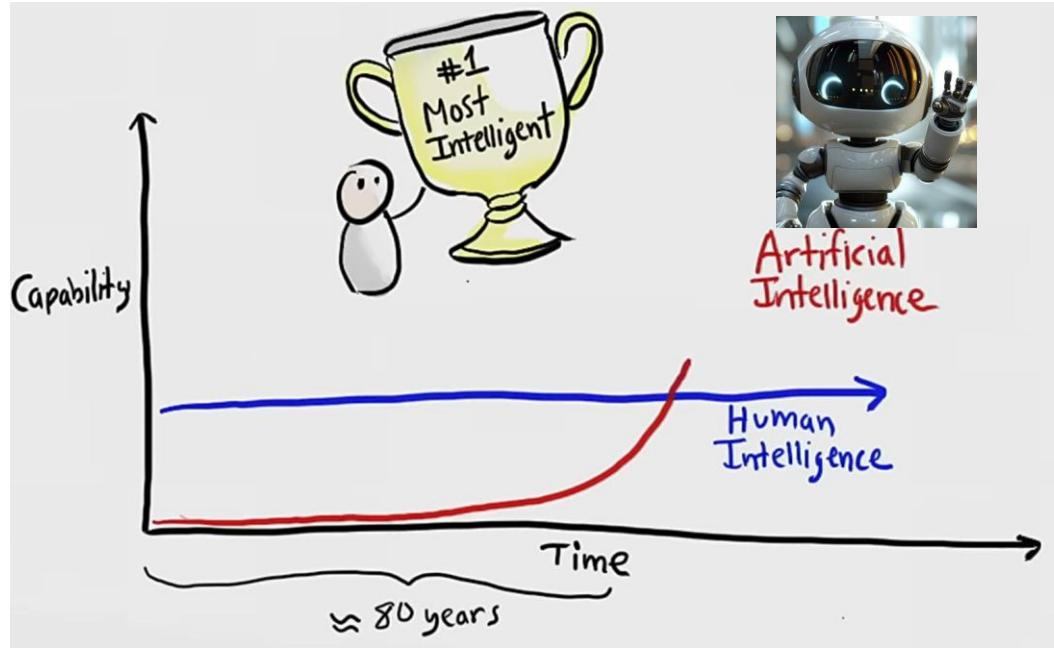
InfoNCE loss

The Emergent Abilities of LLMs

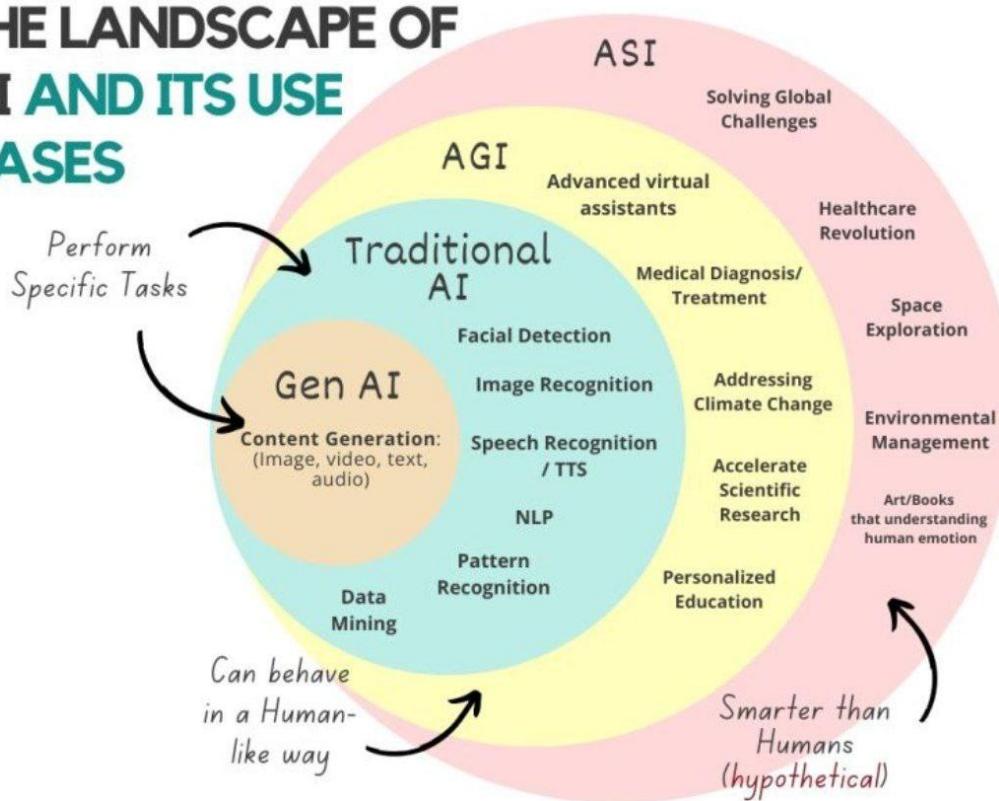




8 billion parameters



THE LANDSCAPE OF AI AND ITS USE CASES



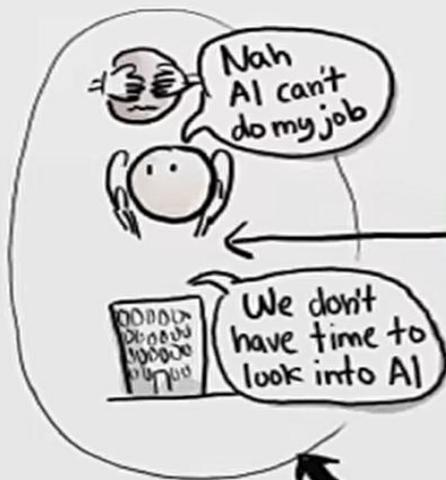
OpenAI Imagines our AI Future

Stages of Artificial Intelligence

Level 1	Chatbots, AI with conversational language
Level 2	Reasoners, human-level problem solving
Level 3	Agents, systems that can take actions
Level 4	Innovators, AI that can aid in invention
Level 5	Organizations, AI that can do the work of an organization

Mindset

Denial



Positive



Panic



AI might not take your job,
but people/companies using AI will

The role of Humans

Is human role X still needed?

doctor, developer, lawyer, ceo, teacher, etc...

Decide what to ask
and how

Evaluate results
beware of
hallucinations!

Provide context

Legal compliance
Data security
etc,etc...

I work as X.

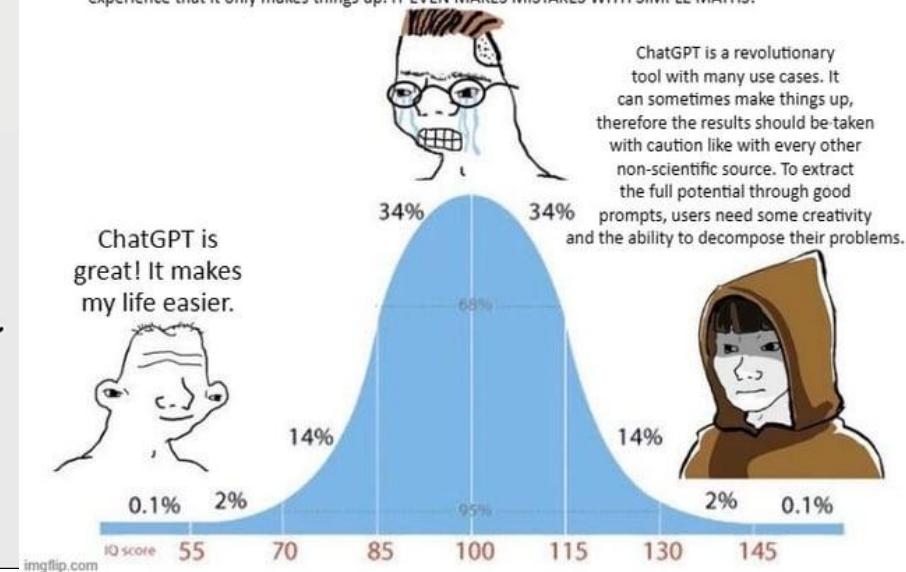
My biggest challenge is Y.
How can you help me?

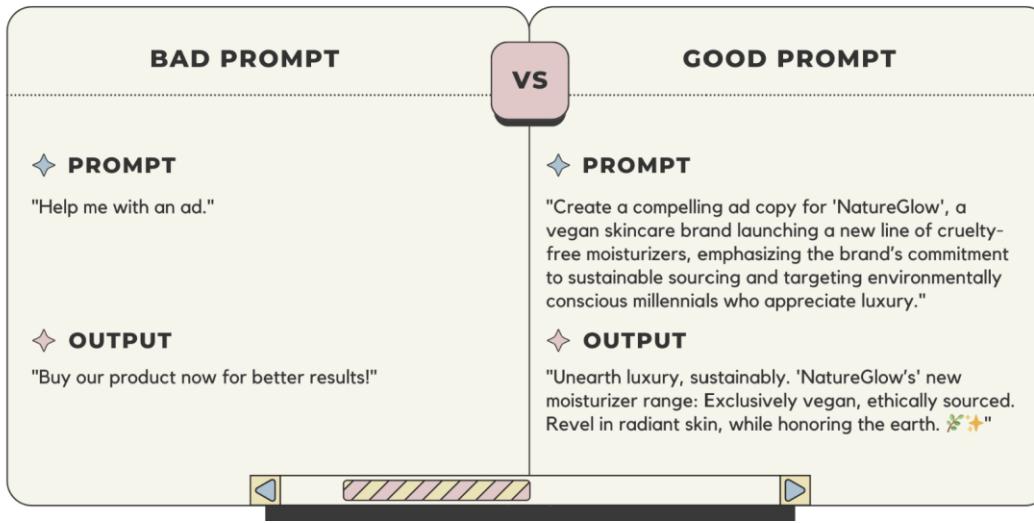
Human

AI

your colleague

ChatGPT is overhyped! It's just a LargeLanguageModel and therefore only capable of producing texts. In my highly complex field of work, it is no help at all. When people ask real questions to it, they will experience that it only makes things up. IT EVEN MAKES MISTAKES WITH SIMPLE MATHS!



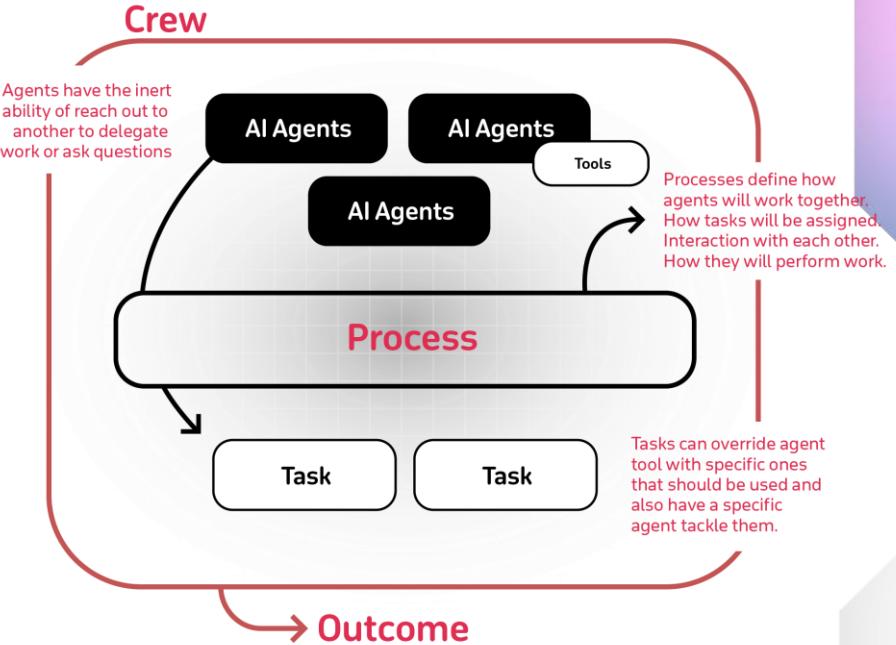


GOOD PROMPT	BAD PROMPT
<ul style="list-style-type: none"> • Clear • Specific • Has enough context • Contains audience insights 	<ul style="list-style-type: none"> • Vague • Generic • Has little to no context • Doesn't have any details

Better prompt engineering skills = Better results

Side effect: Better communication skills overall

Study, Practice, Learn



Chain of Thought



Text – General description of the action



Reasoning – Why was this action taken?



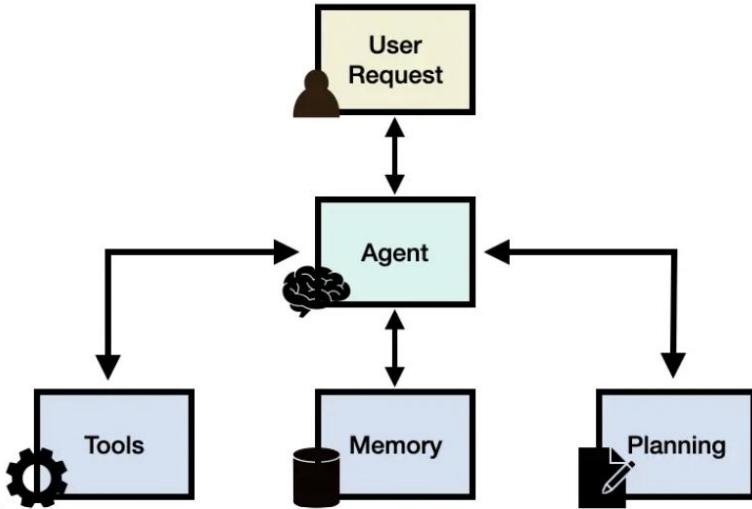
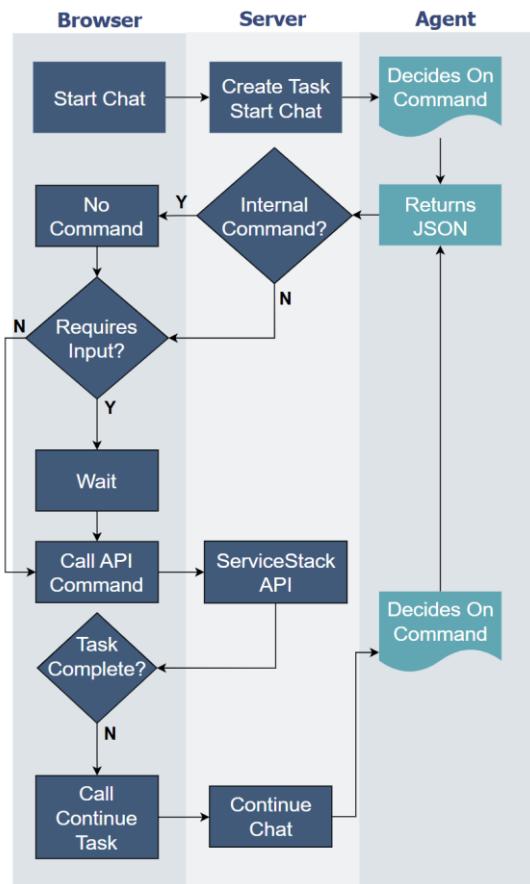
Plan – List steps along the way



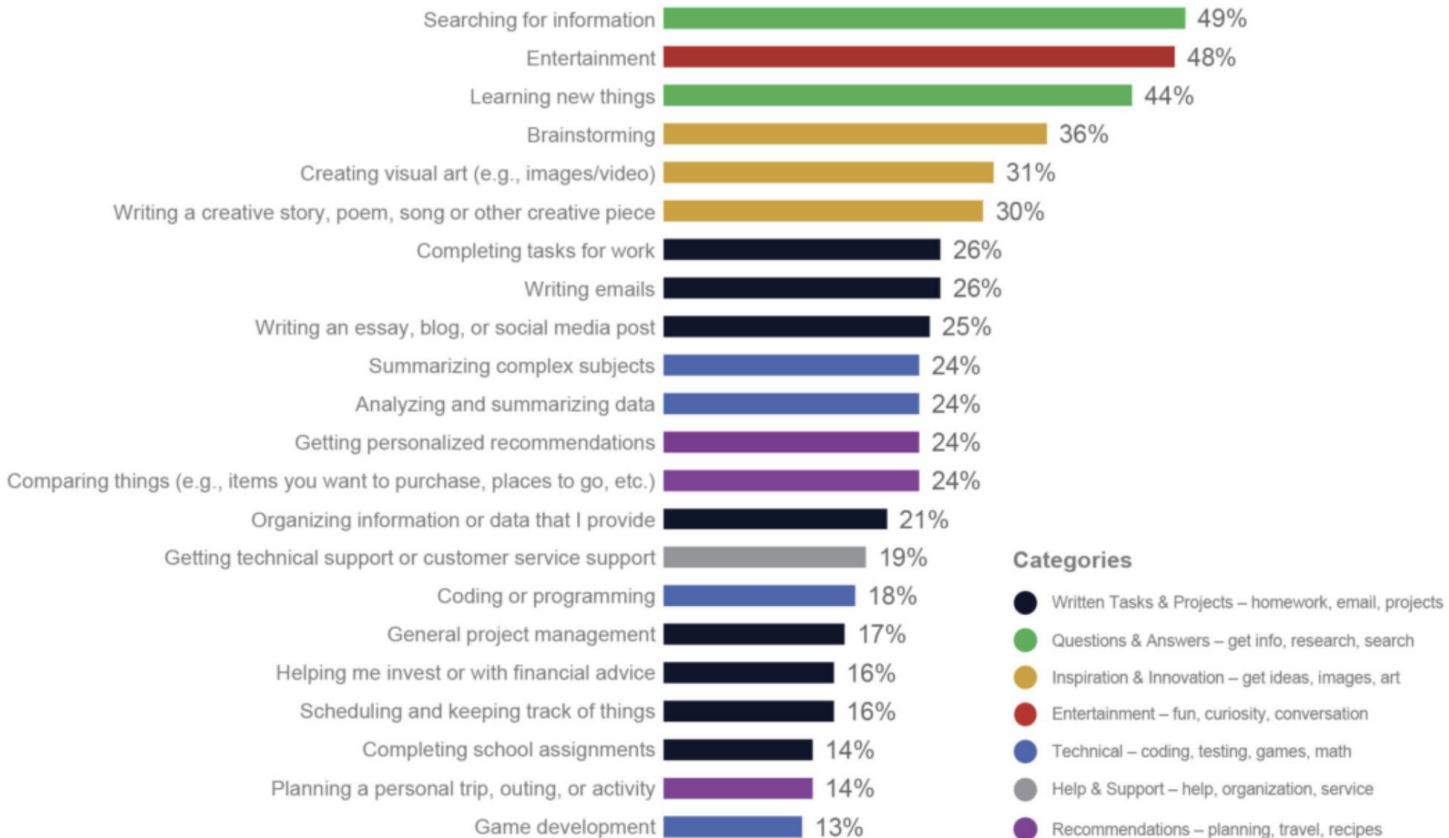
Criticism – What could be a problems?

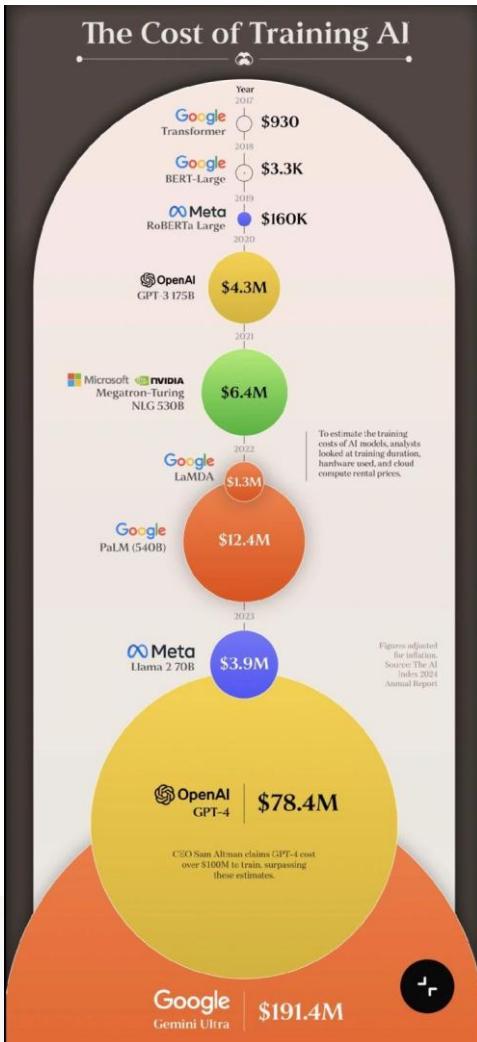


Speak – Output for the user



Generative AI Use Case Prevalence





Although OpenAI asked them not to, the cost of O3 was published in this chart.

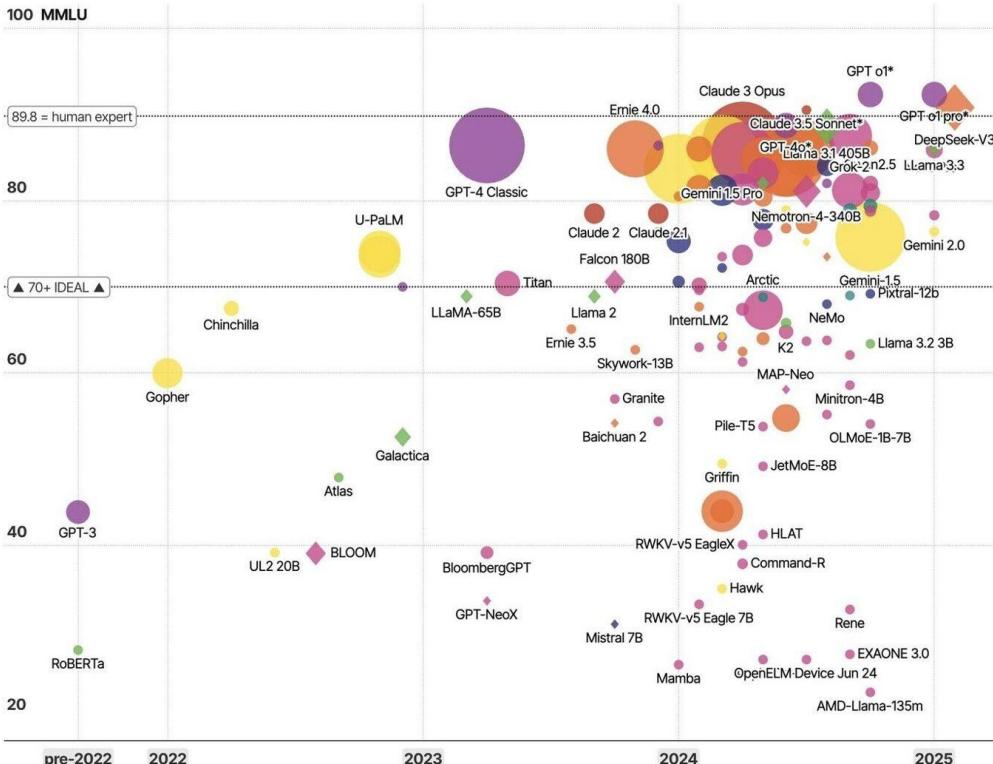


Major Large Language Models (LLMs)

Parameters (Bn) open access

ranked by capabilities, sized by billion parameters used for training

anthropic chinese google meta microsoft mistral openAI other



What Makes Small Language Models so Attractive?

Accessible and Affordable

They can be run (in inference mode) on limited resource regimes (such as laptops and/or small GPUs).



Easier to Customize

Small models can typically be fine-tuned on just a single GPU.

More Energy Efficient

Small language models require fewer computational resources making them more energy-efficient.



Cheaper to Develop

These models only require a relatively small number of GPUs.

Valuable for Educational Purposes

They are more manageable and thus easier to understand and tweak.

Potential Applications of SLMs in Technology and Services



Smartphones



Smart home devices



Wearable Technology



Automotive Systems

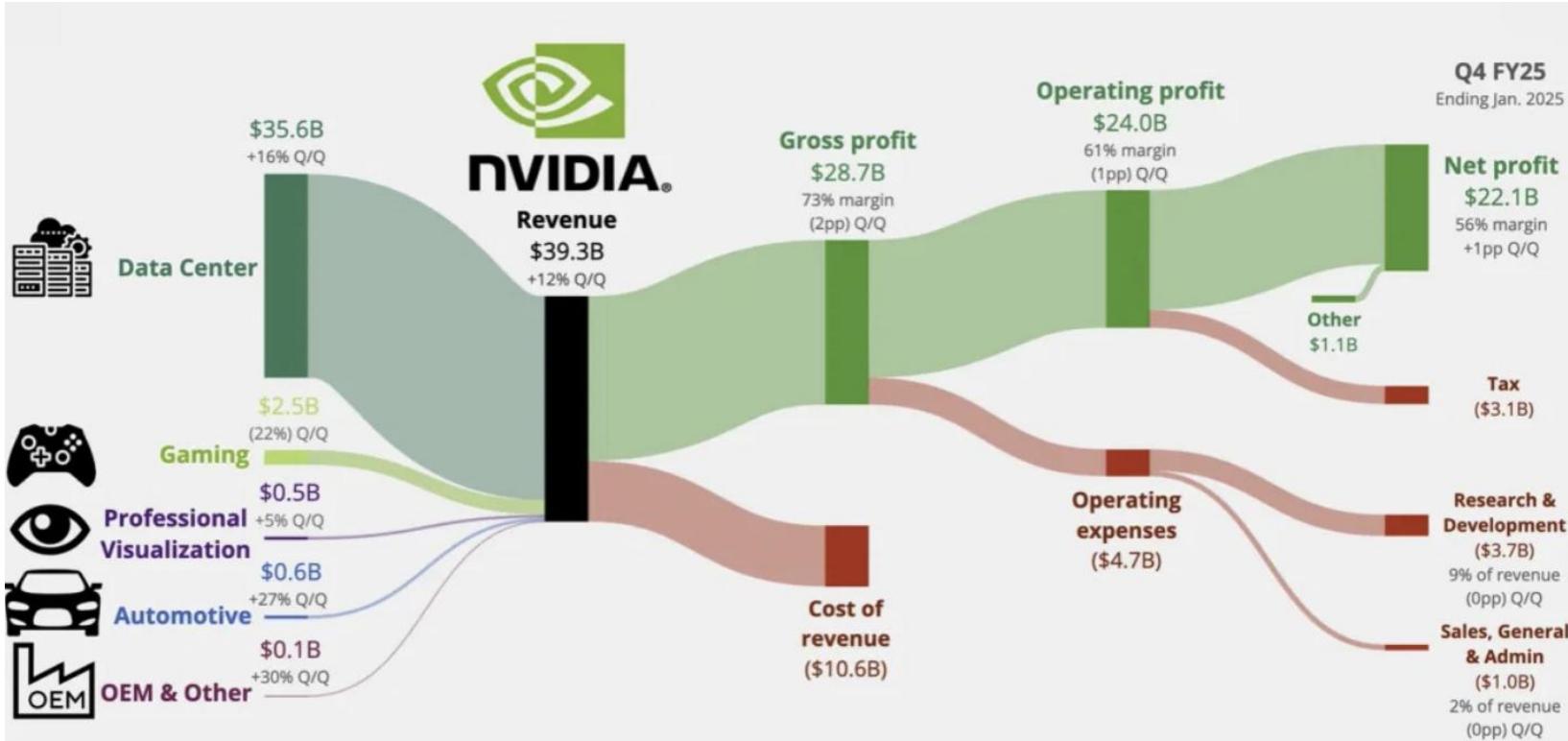


Educational Tools



Entertainment Systems





Phi-4 offers high quality results at a small size







EXHIBIT 5: DeepSeek has priced their models 20-40x cheaper than OpenAi

Model	\$/M Input Tokens	\$/M Output Tokens
Deepseek-chat (V3)	\$0.14	\$0.25
gpt-4o	\$2.50	\$10.00
Δ	-94%	-98%
Deepseek-Reasoner (R1)	\$0.55	\$2.19
o1	\$15.00	\$60.00
Δ	-96%	-96%

Source: DeepSeek, OpenAi, Bernstein analysis

Benchmark (Metric)	DeepSeek-V3	Qwen2.5 72B-Inst.	Llama3.1 405B-Inst.	Claude-3.5-Sonnet-1022	GPT-4o 0513
Architecture	MoE	Dense	Dense	-	-
# Activated Params	37B	72B	405B	-	-
# Total Params	671B	72B	405B	-	-
MMLU (EM)	88.5	85.3	88.6	88.3	87.2
MMLU-Redux (EM)	89.1	85.6	86.2	88.9	88
MMLU-Pro (EM)	75.9	71.6	73.3	78	72.6
DROP (3-shot F1)	91.6	76.7	88.7	88.3	83.7
English	IF-Eval (Prompt Strict)	86.1	84.1	86	86.5
	GPQA-Diamond (Pass@1)	59.1	49	51.1	65
	SimpleQA (Correct)	24.9	9.1	17.1	38.2
	FRAMES (Acc.)	73.3	69.8	70	80.5
	LongBench v2 (Acc.)	48.7	39.4	36.1	41
Code	HumanEval-Mul (Pass@1)	82.6	77.3	77.2	81.7
	LiveCodeBench(Pass@1-COT)	40.5	31.1	28.4	36.3
	LiveCodeBench (Pass@1)	37.6	28.7	30.1	32.8
	Codeforces (Percentile)	51.6	24.8	25.3	20.3
	SWE Verified (Resolved)	42	23.8	24.5	50.8
	Aider-Edit (Acc.)	79.7	65.4	63.9	84.2
	Aider-Polyglot (Acc.)	49.6	7.6	5.8	45.3
Math	AIME 2024 (Pass@1)	39.2	23.3	23.3	16
	MATH-500 (EM)	90.2	80	73.8	78.3
	CNMO 2024 (Pass@1)	43.2	15.9	6.8	13.1
Chinese	CLUEWSC (EM)	90.9	91.4	84.7	85.4
	C-Eval (EM)	86.5	86.1	61.5	76.7
	C-SimpleQA (Correct)	64.1	48.4	50.4	51.3



THE BIGGEST SINGLE-DAY **STOCK DECLINES**



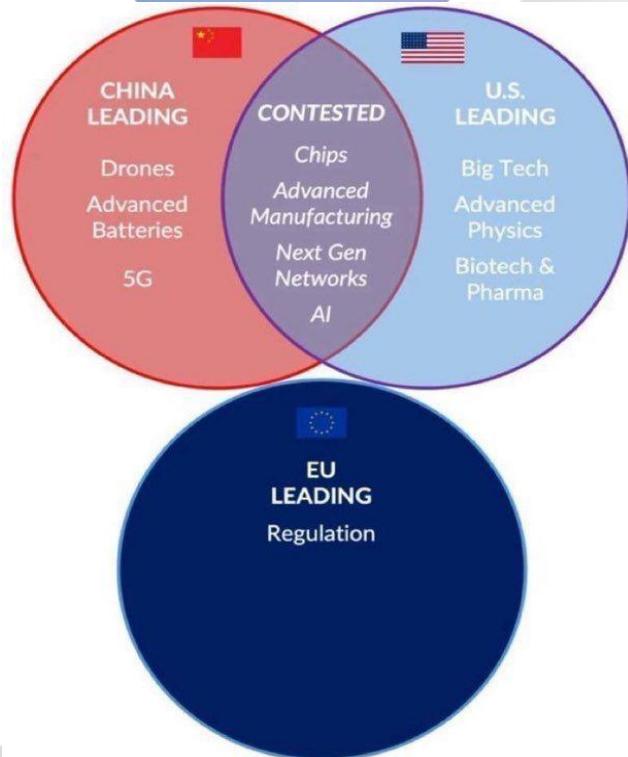
-\$560B

Nvidia has experienced 8 of the 10 biggest single-day stock declines.

-\$197B	Aug. 29, 2024	NVIDIA.
-\$205B	Jul. 24, 2024	NVIDIA.
-\$205B	Jul. 17, 2024	NVIDIA.
-\$206B	Apr. 29, 2022	amazon
-\$208B	Jun. 24, 2024	NVIDIA.
-\$212B	Apr. 19, 2024	NVIDIA.
-\$228B	Jan. 7, 2025	NVIDIA.
-\$251B	Feb. 3, 2022	Meta
-\$279B	Aug. 3, 2024	NVIDIA.
-\$560B	Jan. 27, 2025	NVIDIA.

Top 10 Countries

	Overall Rank	Talent	Operating Environment	Infrastructure	Government Strategy	Commercial	Research	Development
1	USA	1	2	1	2	1	1	1
2	China	9	21	2	5	2	2	2
3	Singapore	6	48	3	9	4	3	5
4	UK	4	4	17	6	5	4	16
5	France	10	19	14	8	8	6	4
6	South Korea	13	35	6	4	12	13	3
7	Germany	3	8	13	7	9	8	11
8	Canada	8	16	18	3	6	9	10
9	Israel	7	65	26	31	3	7	6
10	India	2	3	68	10	13	14	13

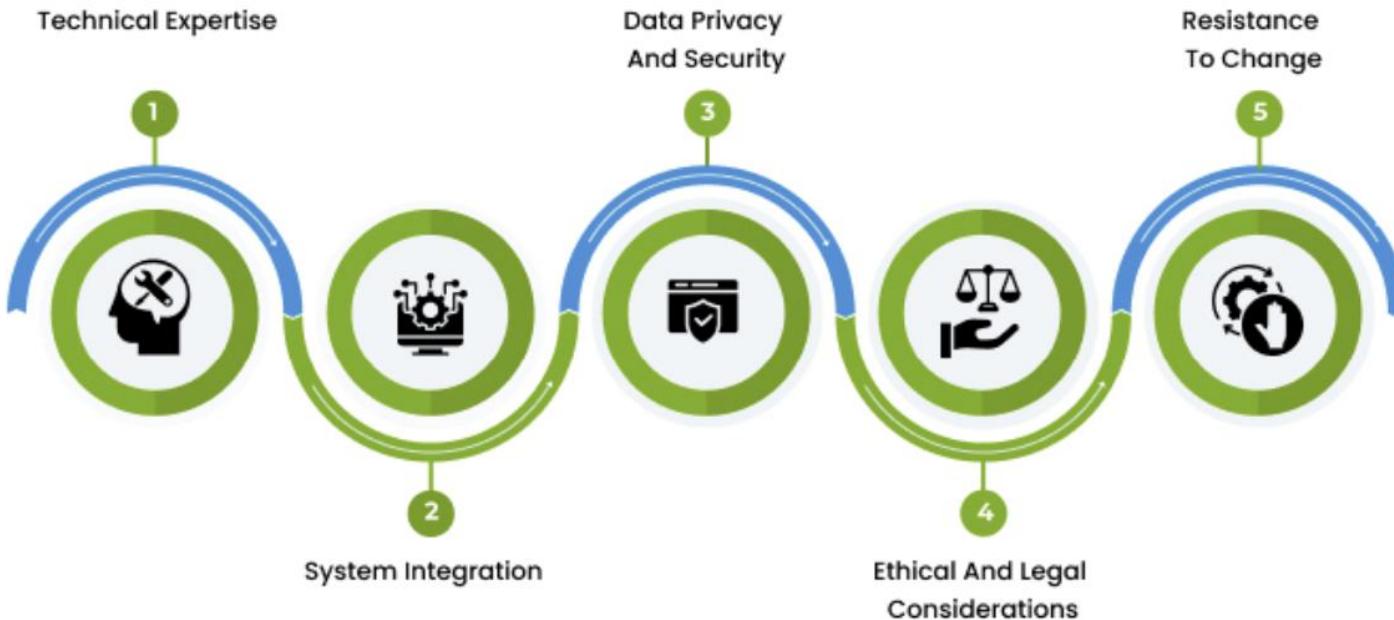


Source: The Global AI Index 2024, Tortoise



In un momento cruciale per le relazioni strategiche tra **Emirati Arabi Uniti** e **Italia**, G42, gruppo attivo nell'ambito dell'intelligenza artificiale con sede ad Abu Dhabi, ha annunciato oggi – attraverso la sua controllata Core42 – una partnership strategica con iGenius, azienda italiana che opera nei modelli di intelligenza artificiale per settori altamente regolamentati. La partnership è volta a realizzare la più

Top Challenges Businesses Face While Implementing AI In A Business

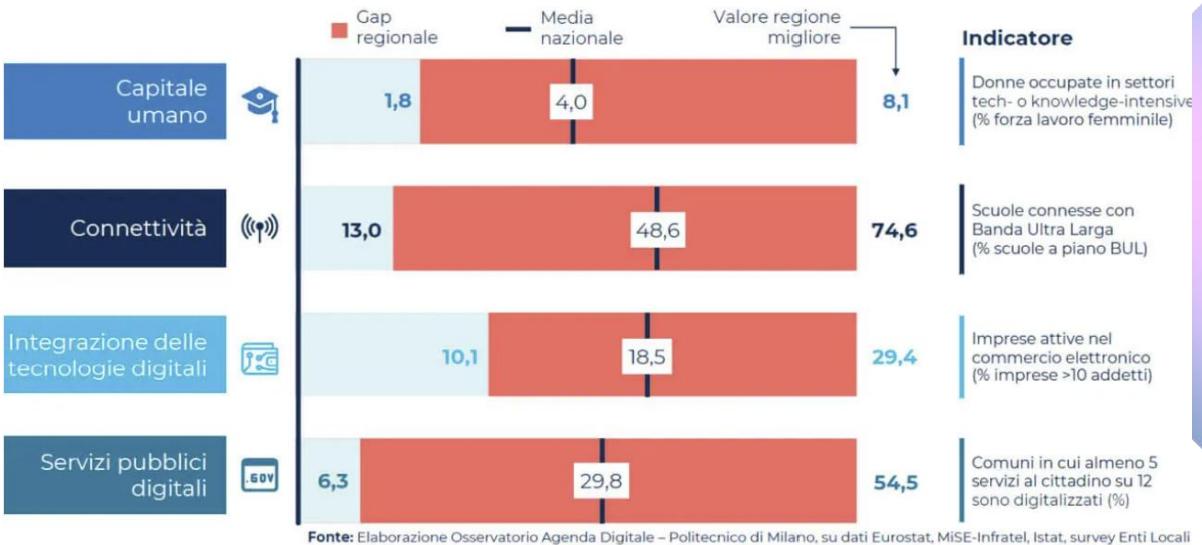


LET'S ADD AI FEATURE TO OUR COMPANY



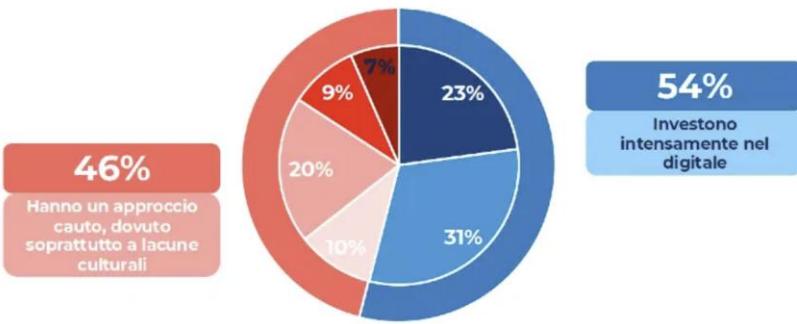
ChatGPT





Le PMI e l'approccio alla digitalizzazione

Innovazione Digitale
29.05.2025



High complexity

BASIC DIGITIZATION

Creates the basis for making analysis, as well as automation, possible



ADVANCED ANALYTICS

Uses digitized data & information to create insights & forecasts



TRADITIONAL AUTOMATION

Technology & programmed scripts to support employees



ADVANCED AUTOMATION AI & IOT

Automatic workflow-driven financial processes

Uses bottom-up approach to learn rules based on observation of what happened previously

High effectiveness



Un modello di maturità: l'AI Journey

Osservatorio Artificial Intelligence
01.02.24 #OAI23



TRADITIONAL COMPANY

Dati e Patrimonio Informativo

Metodologie e Algoritmi

Organizzazione e Competenze

Cultura Aziendale

Relazione con il Cliente

AI COMPANY

scrivi richieste dovrebbe richiesta
possibile brandia promt midjourney
chatgpt meglio meglio
output base modello modo
risposta qualità esempio pubblico strumento
creazione risultato generazione suggerimenti
intelligenza artificiale
generativa corsi espero artificiale creare risultati
corso cosa puoi social media
ciò email corsi idee immagini utenti post
stile ottenere formazione utili didascalia
blog può essere generare idee specifiche
marketing solo marketing contenuti audience
testo includere potrebbe testi fare così generatore
parole chiave contesto strategie certificazioni riferimento
molto possono sito web prompt efficaci guidate utilizzati creare prompt
esempi sempre var query pagine date digital marketing piattaforme
attraverso publisher paginate pagine state consente domanda

789012 Bonifico IT60X0542811101000000123456 Mario Rossi Via Roma 123 20100 Milano importo EUR 1500,00 da
ta 05/01/2024

IT60X0542811101000000123456 | 789012 | Via Roma 123 20100

EUR 2300,50 IT72Y0300203280000400145678 Giuseppe Verdi Via Dante 45 50123 Firenze causale: pagamento fat
tura data 06/01/2024 456789

IT72Y0300203280000400145678 | 456789 | Via Dante 45 50123

bonifico eseguito 750,25EUR IT98Z0336902000001234567890 Luigi Bianchi 123456 Corso Italia 78 30172 Venez
ia data 07/01/2024

IT98Z0336902000001234567890 | 123456 | Corso Italia 78 30172

Addebito diretto SDD Core IT41X0200805364000105917552 Via Garibaldi 256 00187 987654 Roma Anna Neri comm
issioni 2,00EUR

IT41X0200805364000105917552 | 987654 | Via Garibaldi 256 00187

Prompt
LLM

Data	Importo	IBAN	Cod. Cliente	Ordinante	Indirizzo	CAP	Città
05/01/2024	€1.500,00	IT60X0542811101000000123456	789012	Mario Rossi	Via Roma 123	20100	Milano
06/01/2024	€2.300,50	IT72Y0300203280000400145678	456789	Giuseppe Verdi	Via Dante 45	50123	Firenze
07/01/2024	€750,25	IT98Z0336902000001234567890	123456	Luigi Bianchi	Corso Italia 78	30172	Venezia
08/01/2024	€2,00	IT41X0200805364000105917552	987654	Anna Neri	Via Garibaldi 256	00187	Roma



**VIVIAMO IN UN'EPOCA
IN CUI LA GENTE,
COSÌ OCCUPATA A PRODURRE,
SI È DIMENTICATA
DI DIVENTARE
INTELLIGENTE.**

OSCAR WILDE

Grazie