AI & CYBERSECURITY



BRIEF HISTORY OF AI

1950s

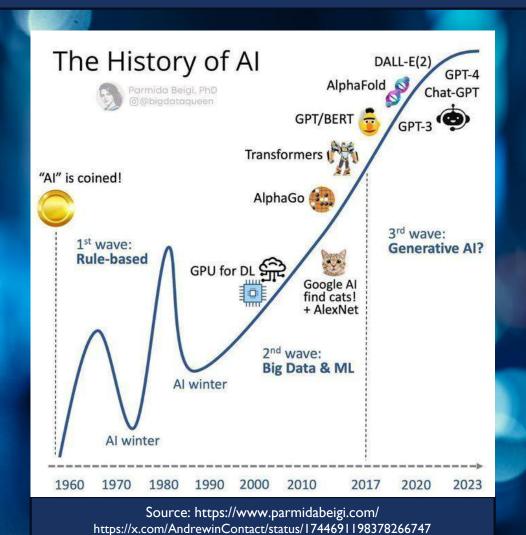
Text

Analytics

Rule

Based

Systems



1960s 2000s

Source: https://www.purpleslate.com/generative-ai-guide/

1980s

Natural

Language

Processing

Machine

Learning

2020s

GPT

-

ARTIFICIAL INTELLIGENCE FUNDAMENTALS

Artificial Intelligence

Al involves techniques that equip computers to emulate human behavior, enabling them to learn, make decisions, recognize patterns, and solve complex problems in a manner akin to human intelligence.

Machine Learning

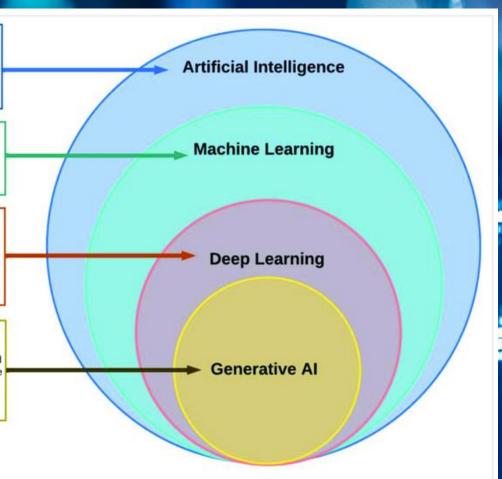
ML is a subset of AI, uses advanced algorithms to detect patterns in large data sets, allowing machines to learn and adapt. ML algorithms use supervised or unsupervised learning methods.

Deep Learning

DL is a subset of ML which uses neural networks for in-depth data processing and analytical tasks. DL leverages multiple layers of artificial neural networks to extract high-level features from raw input data, simulating the way human brains perceive and understand the world.

Generative Al

Generative AI is a subset of DL models that generates content like text, images, or code based on provided input. Trained on vast data sets, these models detect patterns and create outputs without explicit instruction, using a mix of supervised and unsupervised learning.

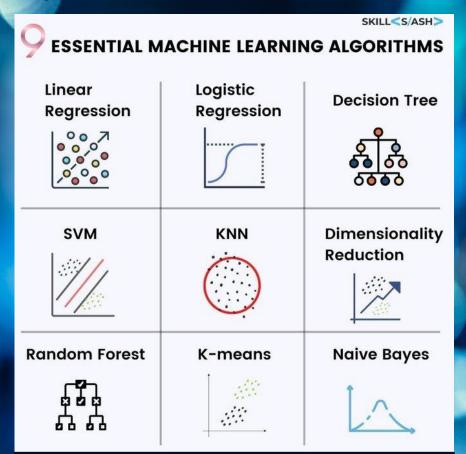


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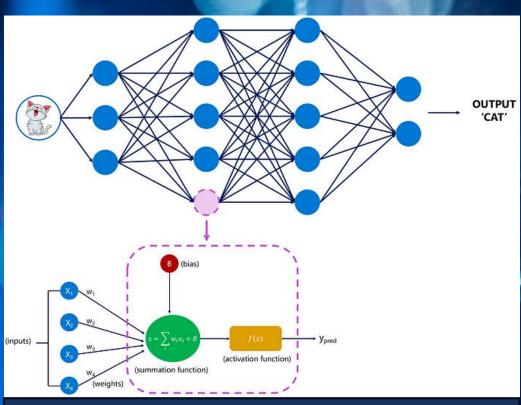
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MACHINE LEARNING ALGORITHMS

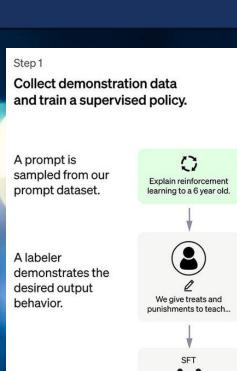


Source: https://www.skillslash.com/ https://x.com/RealSaintSteven/status/1585330168930787329



Source: https://medium.com/@margauxvanderplaetsen/the-journey-and-architecture-of-chatgpt-a-look-behind-the-scenes-ef35bed11072

TRAINING CHATGPT



This data is used to

fine-tune GPT-3.5

with supervised

learning.

Collect comparison data and train a reward model.

A prompt and several model outputs are sampled.

Explain reinforcement learning to a 6 year old.

In reinforcement learning, the agent s...

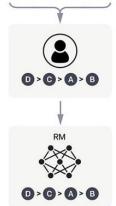
In reinforcement learning, the agent s...

B...

We give treats at pulsabrerieris to care.

A labeler ranks the outputs from best to worst.

This data is used to train our reward model.



Step 3

Optimize a policy against the reward model using the PPO reinforcement learning algorithm.

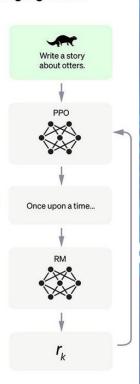
A new prompt is sampled from the dataset.

The PPO model is initialized from the supervised policy.

The policy generates an output.

The reward model calculates a reward for the output.

The reward is used to update the policy using PPO.



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Source: https://openai.com/index/chatgpt/

AI FOR STUDYING

- Create a study plan
- Summarize notes/videos
 Gamma, ChatGPT, Fabric
- Quiz yourself



GEN AI FOR OSINT

- Cleanup.pictures
- Picwish.com
- Phind.com



PRESENTATION



Preston Thornburg



Dani Goland

Phishing with

Dynamite: Harnessing

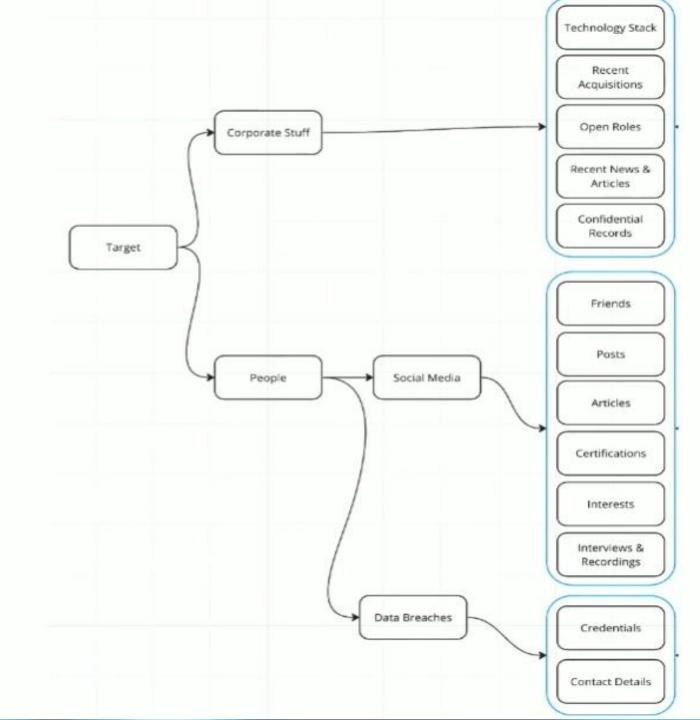
AI to Supercharge

Offensive Operations



General Flow

Phase I - Gathering data high level data from established pipelines



Tools Used

We build a modular framework consisting of various modules that accomplish different tasks tasks such as:

- Web Scraping
- OSINT Gathering
- Data Leak Lookups
- Image Captioning
- Social Media Reconnaissance
- Datastores(e.g. Vector DBs, Elasticsearch, Neo4J)
- LLMs(OpenAl GPT4, OpenAl Embeddings)















spiderfoot







Personal Hobbies

Strategy Synopsis: The scammer leverages the individual's deep community involvement and dedication to health and wellness, while also serving in a leadership role professionally. By indicating that there's a move to start a local chapter in Cleveland and emphasizing the value of the individual's dedication to the community, the scammer aims to appeal to their sense of duty and recognition.

Subject: Bodybuilding.com's New Cleveland Chapter Needs You

Hi Dave,

I hope you're doing well. Over the past few months, we've been considering expanding Bodybuilding.com's community chapters, and Cleveland has always been on our radar, given its active and dedicated members like you. Given your unwavering commitment to the community and your efforts in promoting better health and wellness, we thought it'd be great to have you play a pivotal role in this new chapter. We have a few roles and responsibilities drafted out and would love to get your input.

Please find the attached document outlining some of the initial plans and roles. If any of these resonate with you, do let us know. I genuinely believe that with individuals like you, this new chapter can create a significant impact. Let's catch up soon to discuss more.

Warm regards,

Tiffany Brosch

Community Development

Bodybuilding.com

RISKS AND CONSIDERATIONS

- Be aware what you can and cannot use!
- Privacy & Data storage
- Accuracy
- Ethical Implications



Al Meal Planning for Broke College Students

- Chat GPT integration with Instacart streamlines shopping.
- Al analyzes preferences and suggests high-protein options.
- Offers recipe suggestions tailored to dietary needs and budget.
- Turned 2 hours into 2 minutes.
- Real-time inventory updates ensure items are in stock.



Al Weekly Task Organization

- •Al extracts syllabus tasks and schedules and organizes them by week.
- •Eliminates 20 minutes of manual organization each week.
- •Clear and concise overview of weekly tasks.



ThePhoto by PhotoAuthor is licensed under CCYYSA

BONUS: Al Calendar Integration

- •Al can input class schedules directly into Google Calendar.
- •Eliminates the need to manually add each class, saving time.



- •Reduces risk of scheduling conflicts by automatically accounting for class times.
- •Ensures that important academic deadlines are not overlooked.
- •Provides a clear and organized overview of weekly commitments.

24/7 Al Receptionist for My Business

- •24/7 Al receptionist service for businesses
- Answers customer questions and books appointments
- •Reduces need for human receptionist, saving labor costs
- •Frees up staff to focus on other tasks
- Provides professional and consistent customer service



