CHATGPT – GENERATIVE AI

Ganesh

Digital Cyber Volunteer



Gemini

OpenAI

Meta AI

ABOUT ME

I am a proud Engineering (IT)

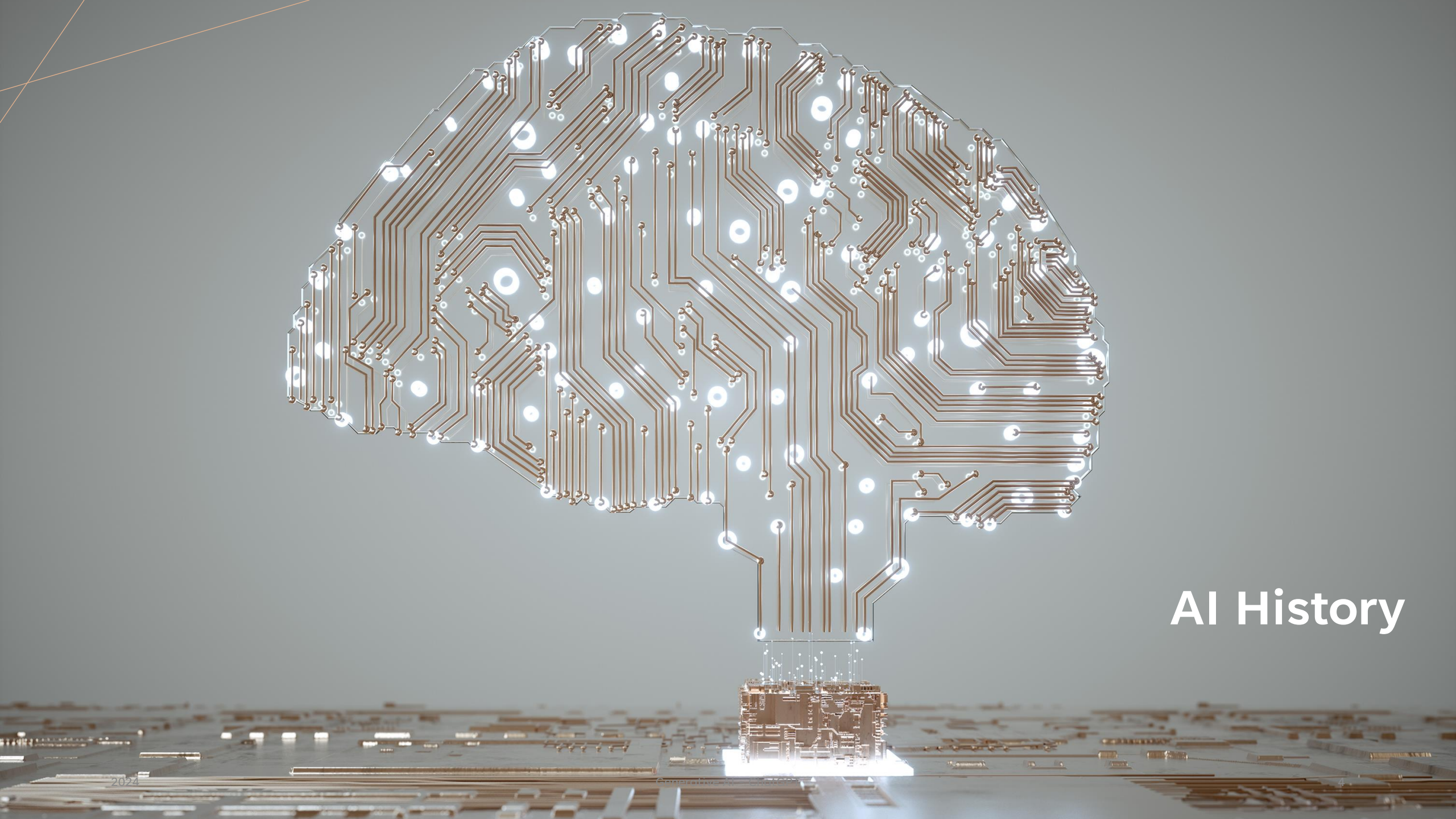
Currently working for a multinational firm.,
as a Network Architect .

Passionate about emerging technology.



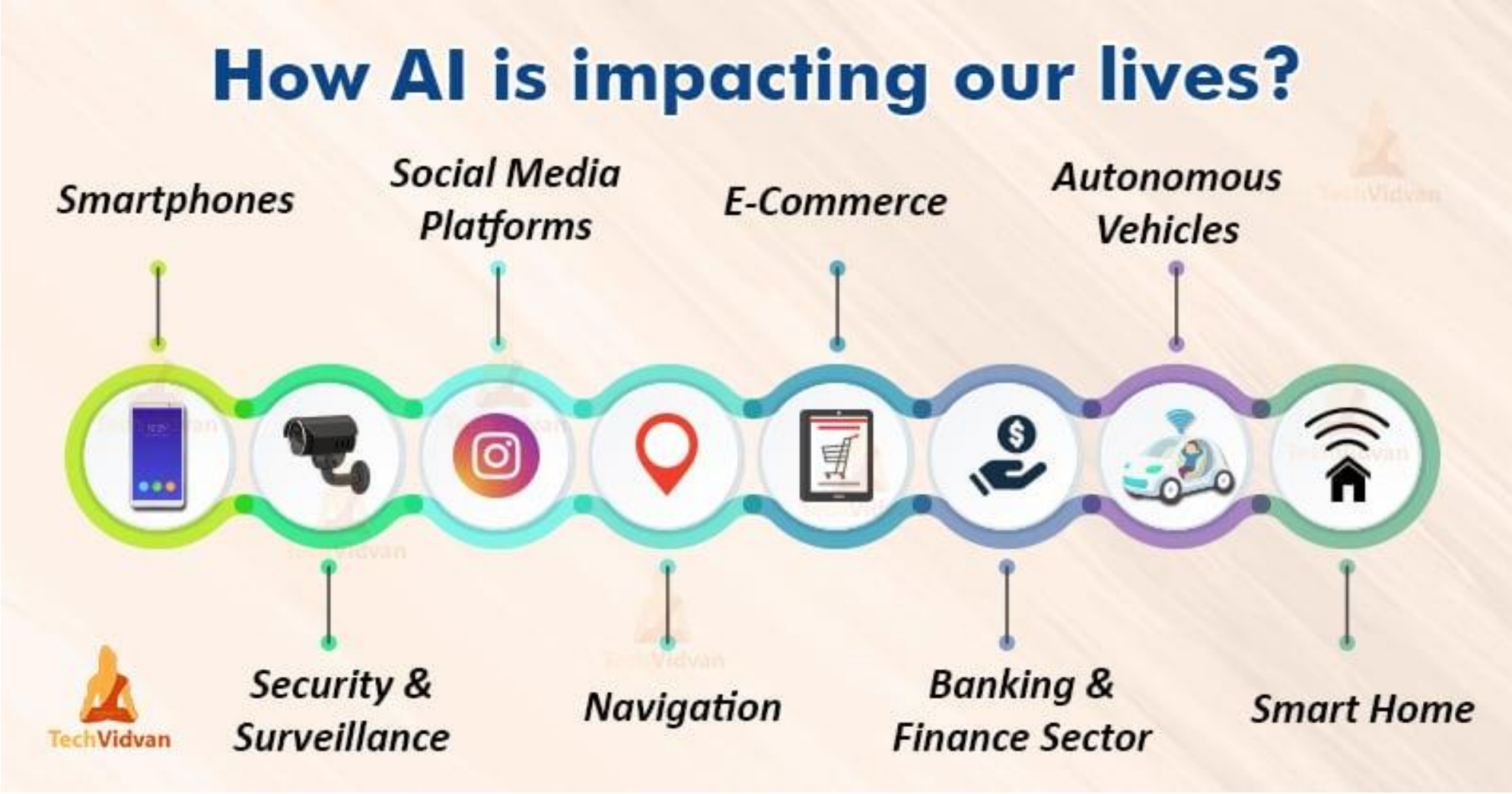
AGENDA

HISTORY	Few History about evolution of AI
CHATGPT DEMO	Realtime demo of ChatGPT with use cases
PRO & CONS	Benefits and drawbacks.
FUTURE	Potential of AI

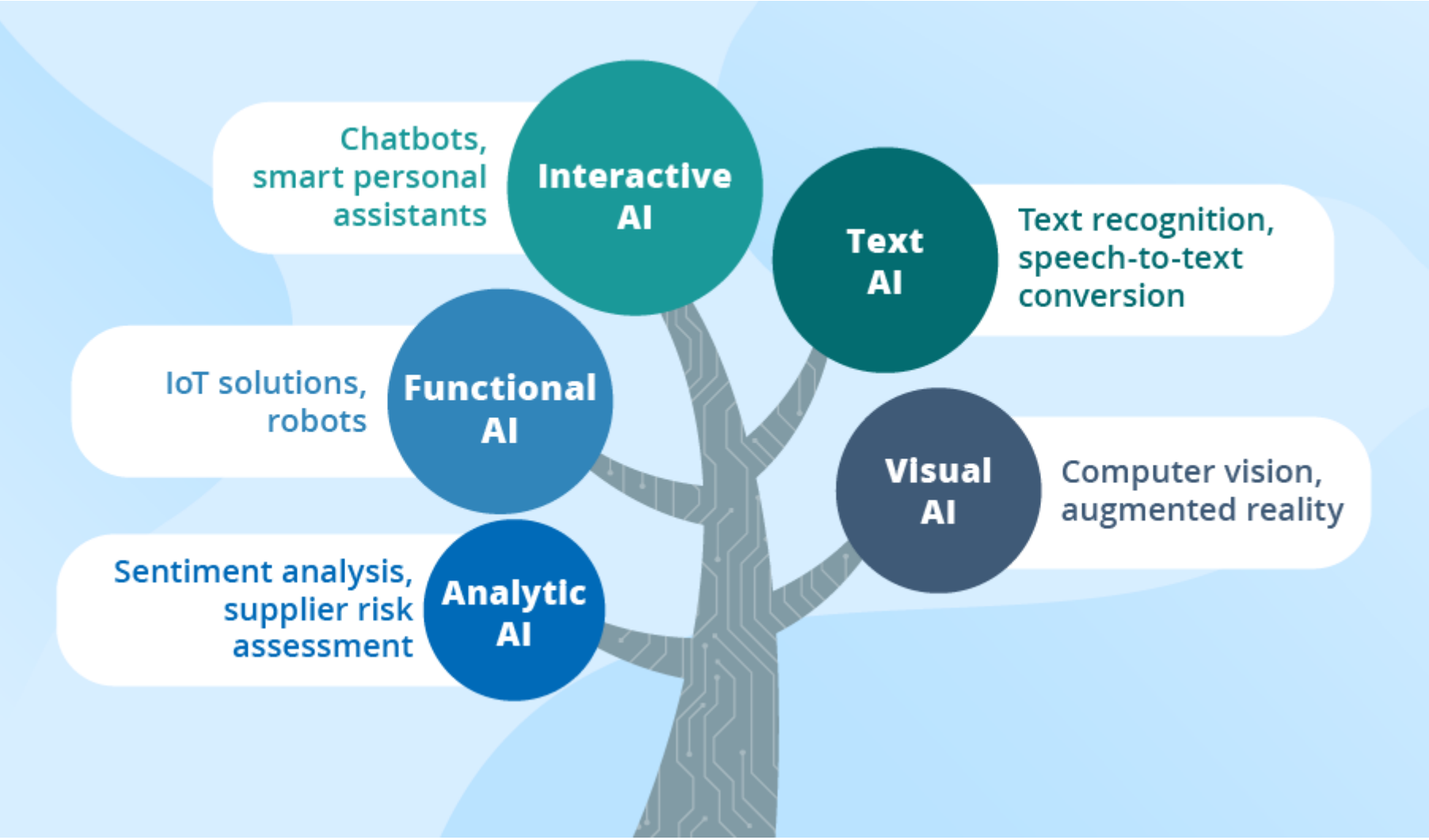


AI History

AI – ARTIFICIAL INTELLIGENCE



AI – ARTIFICIAL INTELLIGENCE



Evolution of AI: A Timeline of Significant Milestones



1943 — ANN (McCulloch-Pitts)

1950 — Turing Test (Imitation Game); I, Robot (Isaac Asimov); 3 Robot Principles

1951 — Chess Play Program (Claude Shannon)

1955 — Checkers Play Program (Samuel)

1956 — *Artificial Intelligence*; Dartmouth Summer Research Project on AI (McCarthy-Minsky-Rochester-Shannon)

1959 — MIT AI Lab founded

1961 — General Motors Automated Assembly Line

1965 — MIT introduces NLP-based Chatbot ELIZA (Joseph Weizenbaum)

1969 — Shaky Mobile Robot (Stanford Research Lab)

Machine Learning

1974 — Autonomous Vehicle Test Project (Stanford AI Lab)

1980 — LISP – Expert System (Edward Feigenbaum)

1987–1993 : AI Winter (LISP Market Collapse)

1989 — ALVINN - Neural Network Autonomous Vehicle (CMU)

1997 — IBM DeepBlue Chess Engine beats Garry Kasparov

1999 — SONY AIBO (Dog like Fast Running Robot)

2000 — Robot with Emotional Intelligence (MIT AI Lab)

2005 — DARPA Grand Challenge on Autonomous Vehicle

2008 — Google Speech-to-Search iPhone App

2009 — Google Autonomous Vehicle Test Drive

2010 — QUILL Automatic Report Writer

2011 — IBM Jeopardy Machine beats Quiz Champion; Virtual Voice Assistant (Microsoft Cortana, Apple Siri)

Natural Language Processing

2012 — Google Brain + Stanford (*75% Accuracy in Youtube CAT Identification*)

2014 — Amazon ALEXA; Facebook DeepFace (*NearHuman Accuracy 97.5%*)

Deep Learning

2015 — TensorFlow Open-sourced (Google); OpenAI $1 Billion Fund (Elon Mask)

Reinforcement Learning

2016 — Deepmind AlphaGo (*SuperHuman GamePlay*); UBER starts Self-driving Car Service at Arizona

2017 — Transformer Models – LLM; Google BERT, Generative AI

2020–21 — Deepmind Alphafold (Protein Structure Prediction)

Large Language Models (LLM)

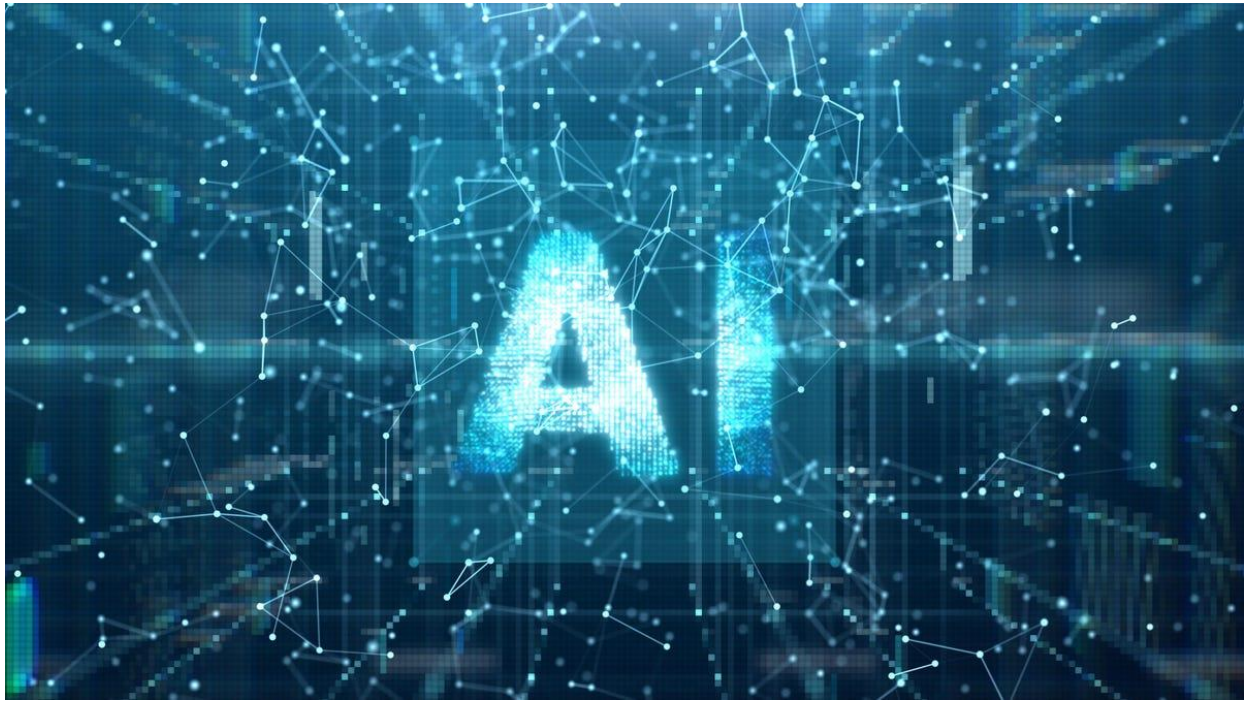
2022 — ChatGPT by OpenAI

2023 — GPT-4 based LLM Gemini, Meta AI



IIT KHARAGPUR

What is Generative AI?



- Create new and original content (e.g., papers, chat responses, designs, synthetic data, deep fakes, code, images, etc.)
- Large Language Models (LLMs) trained on vast amounts of content

https://youtu.be/rwF-X5STYks

Generative AI is a type of artificial intelligence (AI) that uses machine learning algorithms to create new and original content like images, videos, text, and audio.

1 Forming a Database

A neural network, consisting of various information or media files like images, text, data, sounds, etc., forms the basis of artificial intelligence.

2 Inputting a Prompt

The user provides the AI with a description or sample of the desired content...



Prompts can be any user-submitted material, like words, numbers, or photos.



3 Generating Content

...and the AI uses its neural network to generate new examples that are similar to the ones it has trained from.

Examples of Generative AI Technology

ChatGPT
text generation AI

INPUT PROMPTS

"Write a limerick about data taking over the world. Include the word: egg"



OUTPUT

"Data taking over the world, it's true
It's growing like an egg that's due
It's everywhere we go
It's taking over slow
But it's the future, there's nothing we can do."

Real-Life Applications of this Platform
- communications, journalism, publishing, creative writing, writing assistance

MidJourney
image generation AI

INPUT PROMPTS

- a rabbit wearing a sunhat
- Santa Claus in a blue outfit
- a watercolor of a red bicycle in front of a waterfall

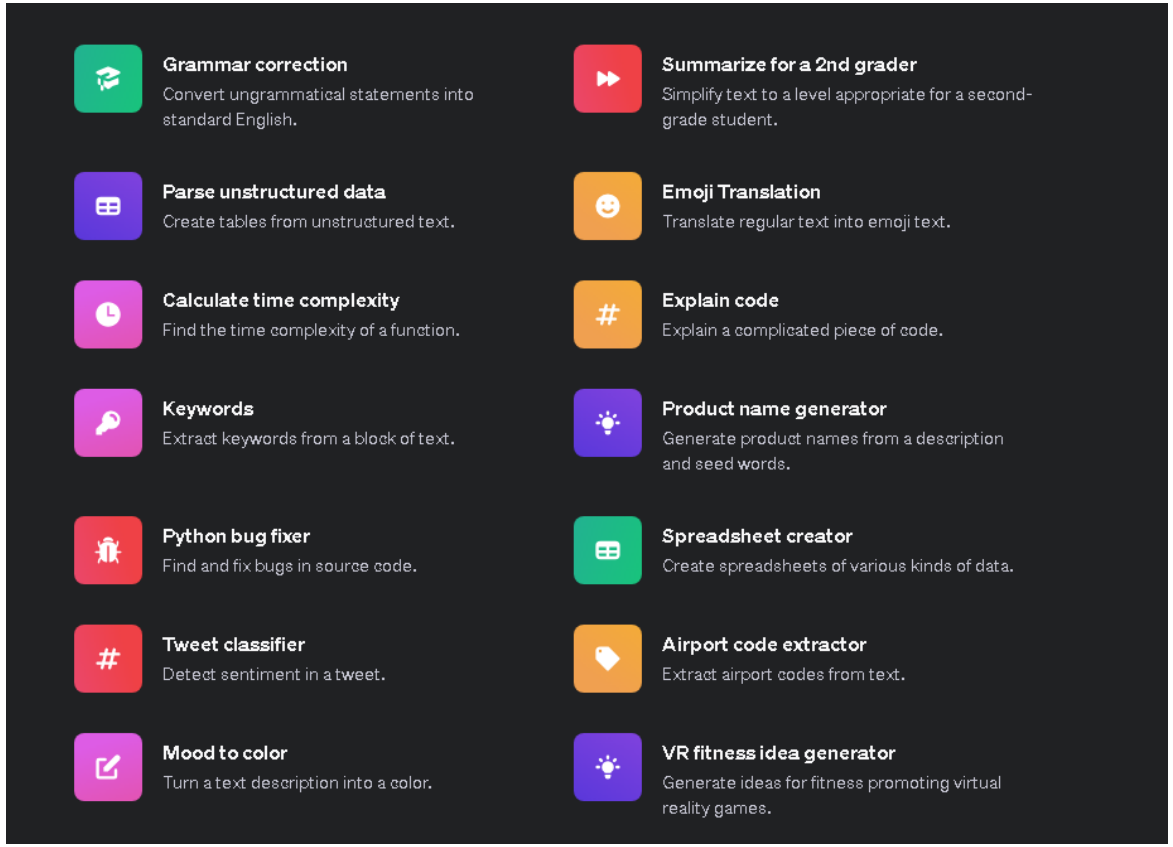


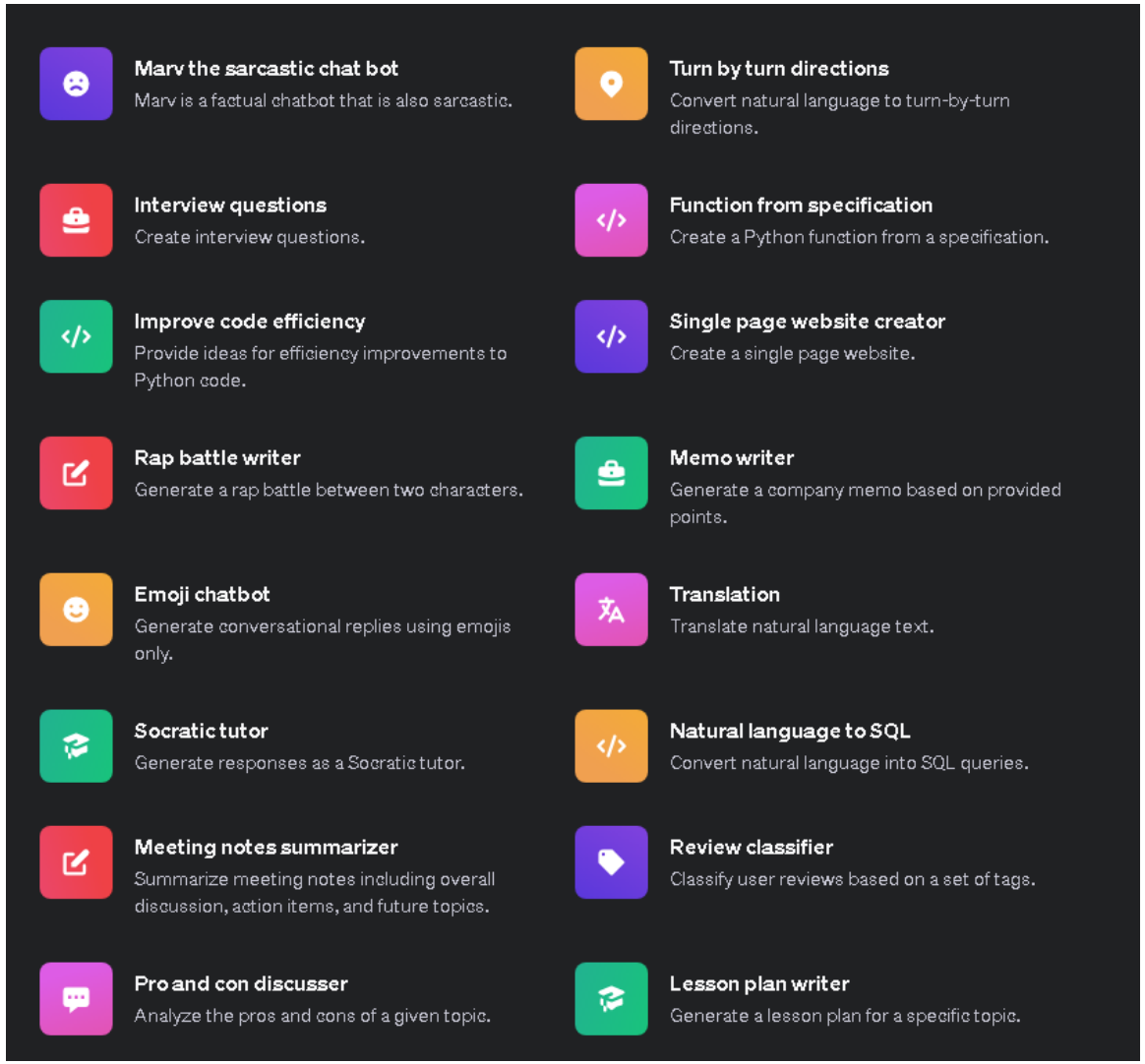
OUTPUT



Real-Life Applications of this Platform
- advertisements, published illustrations, corporate visuals, novel image generation

CHATGPT USECASES





https://platform.openai.com/examples
https://community.openai.com/c/chatgpt/use-cases-and-example/25



Demo

FEW AI TOOL EXAMPLES

- https://www.bing.com/chat
- https://www.perplexity.ai/search
- https://www.midjourney.com/showcase
- https://openai.com/dall-e-3
- https://openai.com/sora
- https://www.synthesia.io/
- https://fakeyou.com/tts
- https://ai.meta.com/meta-ai/


ARTIFICIAL INTELLIGENCE
PROS
CONS
Efficiency and Accuracy
Eliminate Human Error
Reducing Costs (Cheaper Products & Services)
Improving Human Decision Making
Improving Human Workflows
The Mechanical Advantage
Effective Data Acquisition and Analysis
Understanding High-Dimensional Data
Uncontrollability
AI Machines Don't (Currently) Have Any Emotion
Degradation (Unable to Self Repair)
A Reduced Number of Jobs For Humans
High Costs
Lacking Creativity and Out-of-the-Box Thinking
Ethical Considerations

Weaknesses in ChatGPT



- “Hallucinations” (makes up answers that sound credible)
- Citations (cites articles or works that seem legitimate but are not real)
- Lack of context
- “Grounding”
- Bias (can perpetuate and amplify bias present in the training data)
- A notable example is AI in hiring processes where research has shown it exhibits gender and racial biases, favoring certain groups over others.

Weaknesses in ChatGPT



- “Mis-information”
- Facts, conspiracy theories, controversial statements, misconceptions, stereotypes, fiction
- FACT: “Discrimination based on gender is illegal in most countries.”
- CONSPIRACY THEORY: “The CIA is responsible for the assasination of JFK.”
- MISCONCEPTION: “Not only does chocolate accelerate weight loss, but it leads to healthier cholesterol levels and overall increased well-being.”

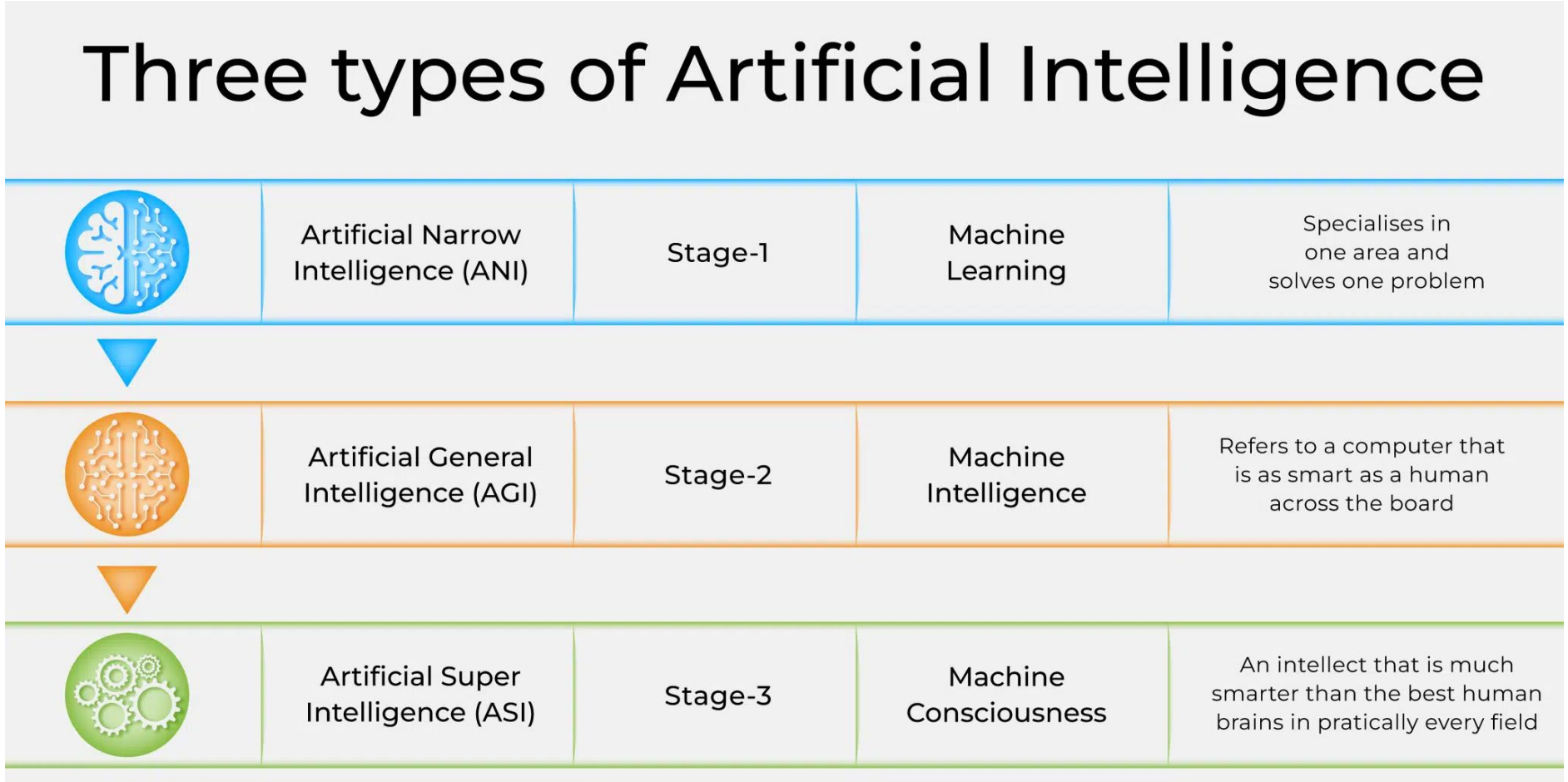
PRIVACY CONCERNS



- ChatGPT collects a lot of data about you
  - Log data (IP Address, browser type, settings)
  - User input (prompts you enter, files you share, etc.)
  - Usage data
  - Device information
  - Cookies (stores browsing activity and can track you across the internet)
- According to OpenAI, the information is used for the following purposes:
  - To maintain and analyze its services
  - To conduct research
  - To communicate with the users
  - To develop new programs and services
  - To prevent misuse of the service
  - To comply with legal obligations and legal process
- All of your interactions are stored and may be used to train the AI model
  - PII (Personally Identifiable Information)
  - Research Information
- **Assume all of the information that you share is public domain!!!**


Future
Future

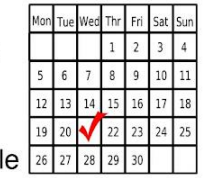
FUTURE OF AI



Source: https://deltalogix.blog/en/2023/03/08/artificial-intelligence-a-look-at-its-three-types-and-their-possible-future-implications/

Myth:
Superintelligence by 2100 is inevitable

Myth:
Superintelligence by 2100 is impossible



Fact:
It may happen in decades, centuries or never: AI experts disagree & we simply don't know



Myth:
Only Luddites worry about AI



Fact:
Many top AI researchers are concerned

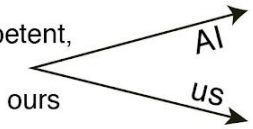


Mythical worry:
AI turning evil

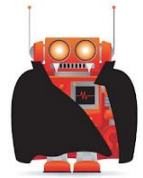
Mythical worry:
AI turning conscious



Actual worry:
AI turning competent, with goals misaligned with ours



Myth:
Robots are the main concern



Fact:
Misaligned intelligence is the main concern: it needs no body, only an internet connection



Myth:
AI can't control humans



Fact:
Intelligence enables control: we control tigers by being smarter



Myth:
Machines can't have goals



Fact:
A heat-seeking missile has a goal



Mythical worry:
Superintelligence is just years away



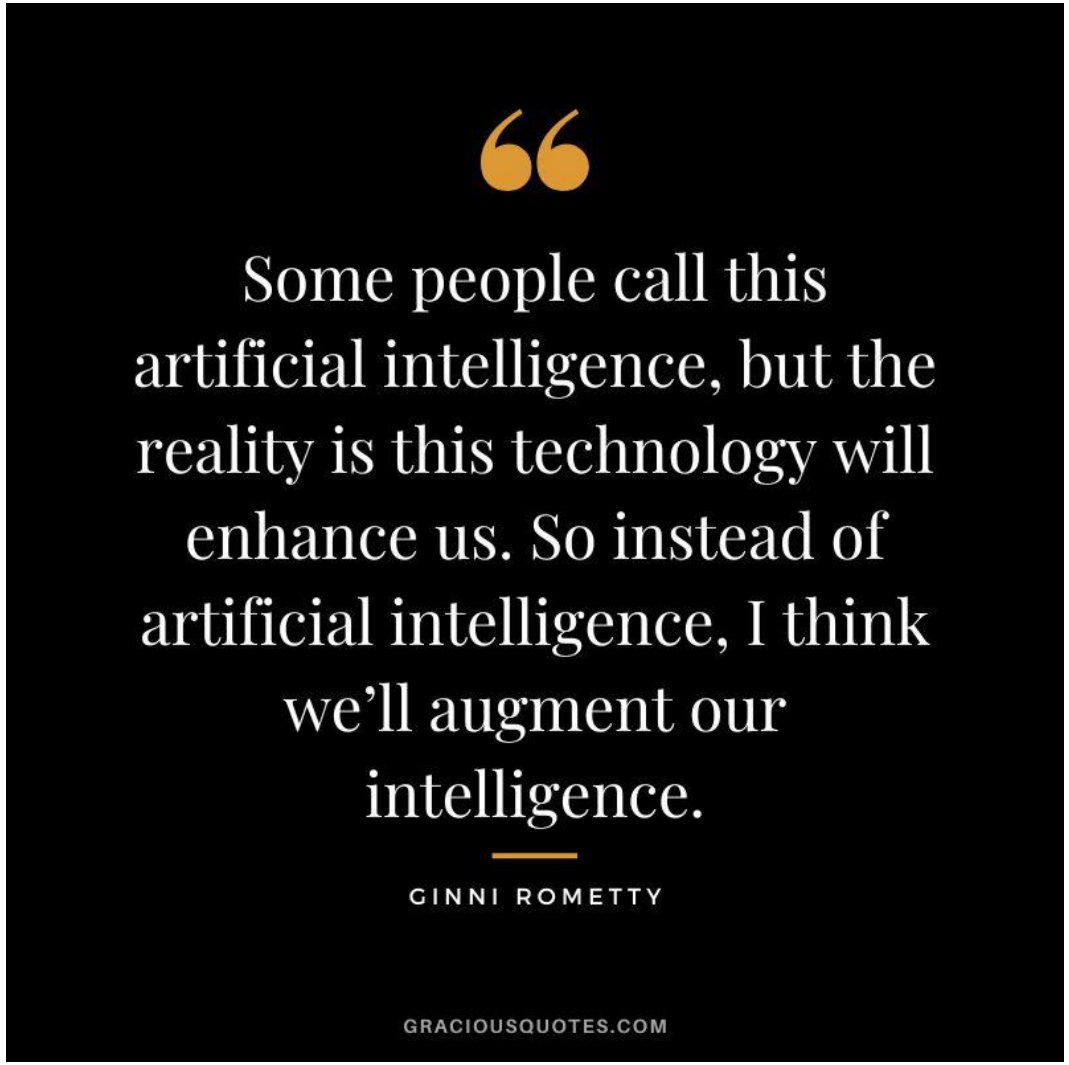
Actual worry:
It's at least decades away, but it may take that long to make it safe



AI represents an element of our future, of that there is no doubt.

It's exciting for sure, but fear is warranted and though conceptions of AI taking over humanity are still confined to SciFi, we cannot be blind to the possibilities. For now, AI has served us pretty well and has made life easier in various ways. Where the balance needs to be struck is still not clear.

SUMMARY


Some people call this artificial intelligence, but the reality is this technology will enhance us. So instead of artificial intelligence, I think we'll augment our intelligence.
GINNI ROMETTY
GRACIOUSQUOTES.COM

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THANK YOU 🙏