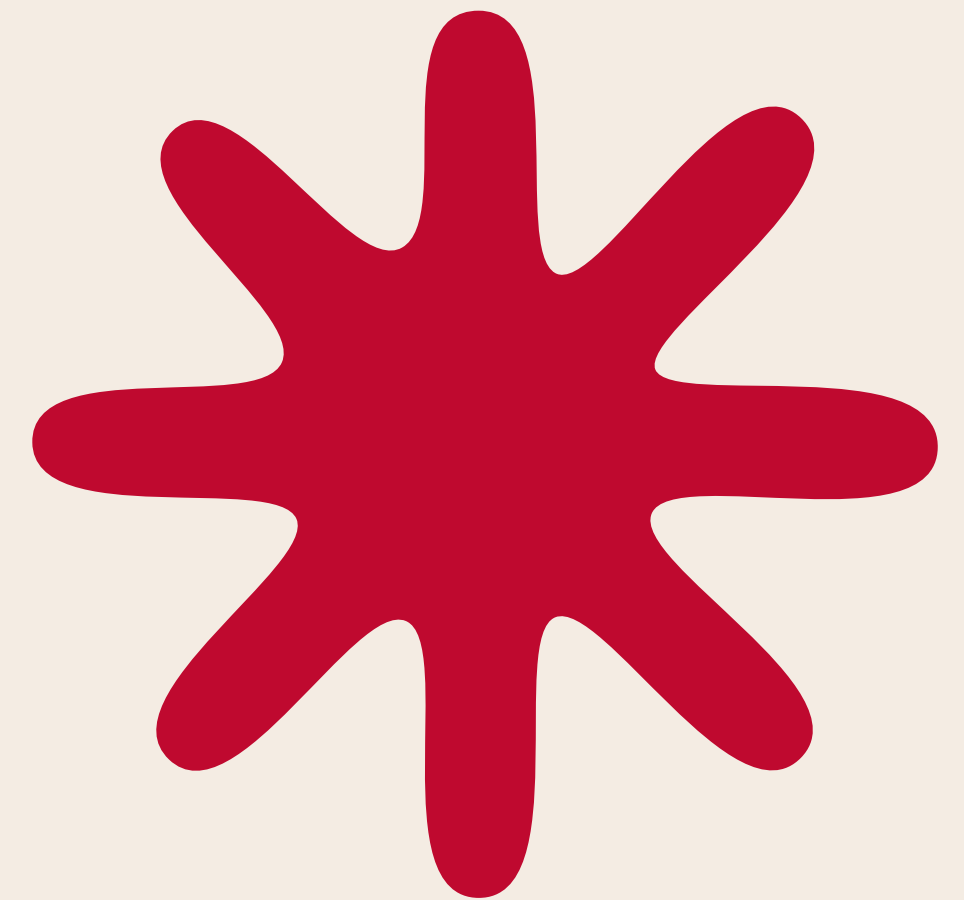


What is AI?



Artificial Intellgience = ????

autonomous system

algorithm *technology*

Artificial Intelligence = ?????

data *generative AI*

machine learning

large language

robots *model*

Let's simplify some of these terms...

Let's simplify some of these terms...

Algorithm = ????

An **algorithm** is a list of
instructions

A recipe is an **algorithm**.

- Preheat oven
- Mix butter and sugar
- Add eggs
- Add flour
- Bake for 12 minutes

*a step-by-step set
of instructions*

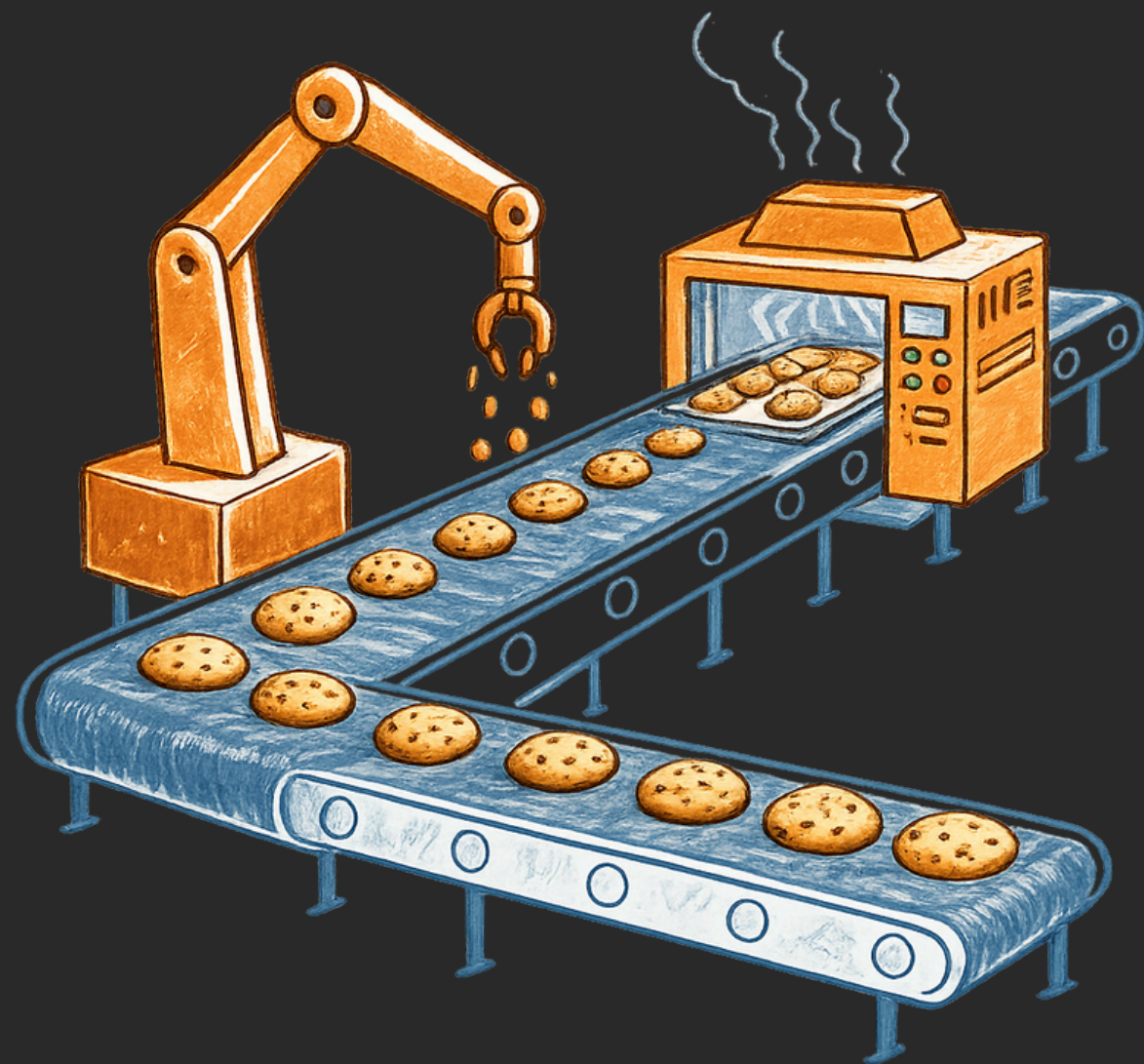
A recipe is an **algorithm**.

- Preheat oven
- Mix butter and sugar
- Add eggs
- Add flour
- Bake for 12 minutes

Algorithm = a step-by-step set of instructions for
accomplishing a task

Automation = ?????

automation is the use of technology, machinery,
or software to perform tasks and processes with
minimal human intervention



A machine assembly line is
automation.

Automation = technology, machinery, or software following a set of instructions with no or minimal human intervention

Machine Learning = ????

Machine Learning is an algorithm that analyzes large datasets to identify patterns and make predictions

An image detection classifier
is **machine learning**



good cookies



burned cookies

Image

Label



good cookies



burned cookies



burned cookies



burned cookies



good cookies

Image

Label



good cookies



burned cookies



burned cookies



burned cookies



good cookies

Is this a good or burned cookie?



Machine Learning = learning patterns from data
to make predictions and detect decision
boundaries for new data

Artificial Intelligence = ????

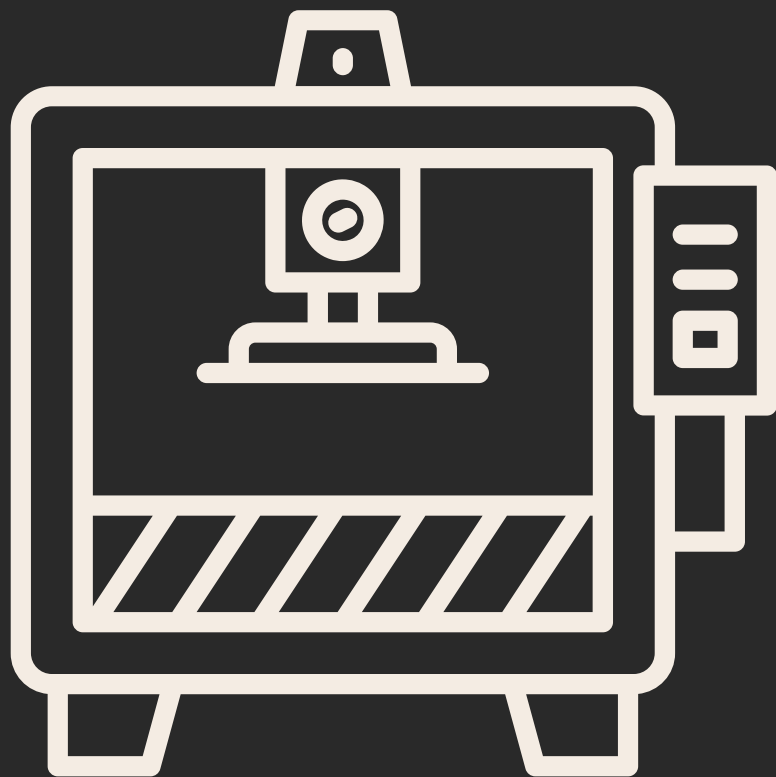
Artificial Intelligence is the science and engineering of making intelligent machines

Artificial Intelligence is using human-like intelligence to make decisions



Artificial Intelligence is using human-like intelligence to make decisions

*too many cookies
are burning!*



- Lower the oven temperature
- Bake the cookies for less time
- Use less sugar, it burns faster

Artificial Intelligence = machines or systems
capable of performing tasks that typically
require human intelligence

Autonomous AI System

Autonomous AI System

an AI system working without
human intervention

Generative AI System

Generative AI System

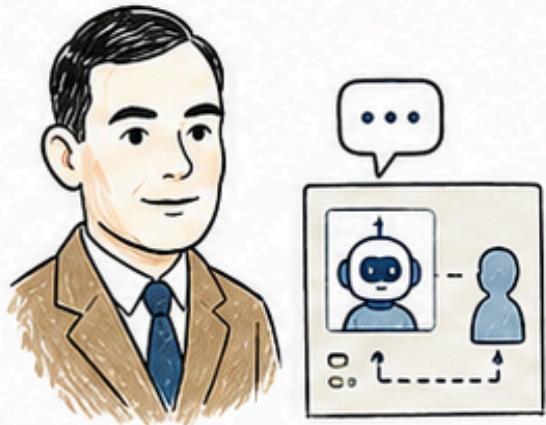
an AI system that can create
new, original content

...but where did this all come from?

AI Timeline

1950

Alan Turing
“Can machines think?”
The Turing Test



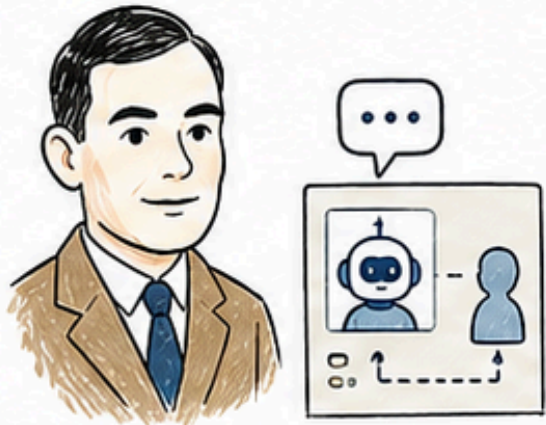
AI Timeline

76 years ago!!



1950

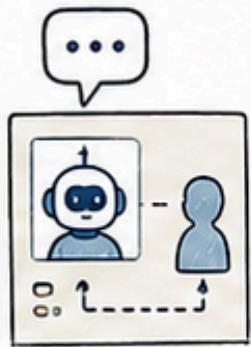
Alan Turing
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AI Timeline

1950

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The Turing Test



1955–1956

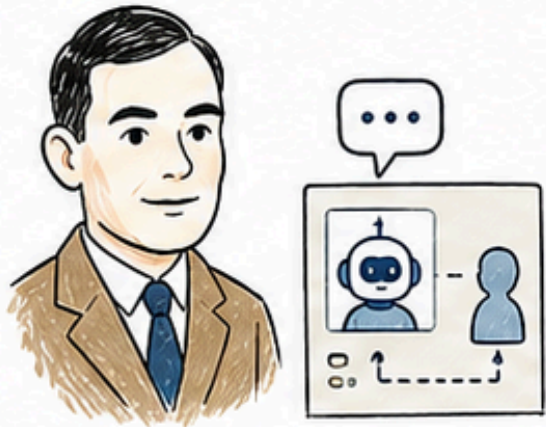
John McCarthy
coins the term
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AI Timeline

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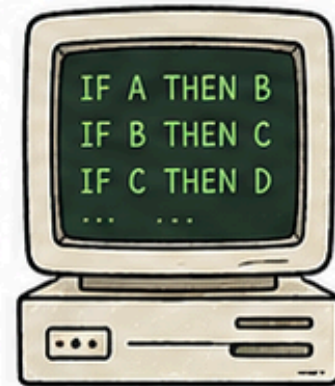
1955-1956

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1960s-1980s

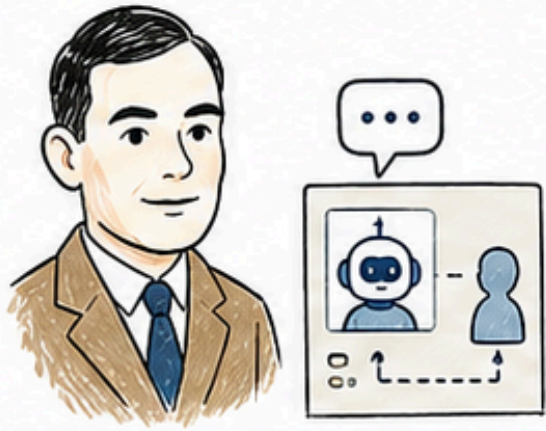
Rule-based
expert systems
Computers followed
human-written rules



AI Timeline

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The Turing Test



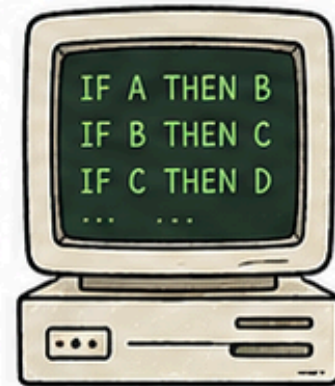
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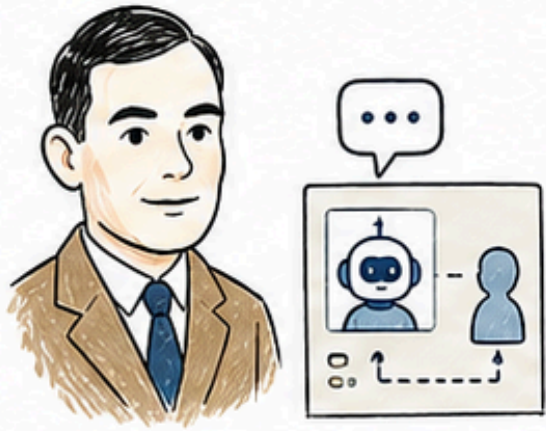
IBM Deep Blue
defeats world chess
champion
Garry Kasparov



AI Timeline

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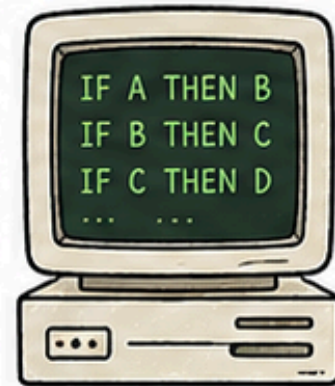
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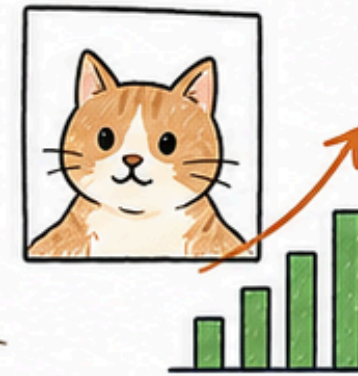
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2012

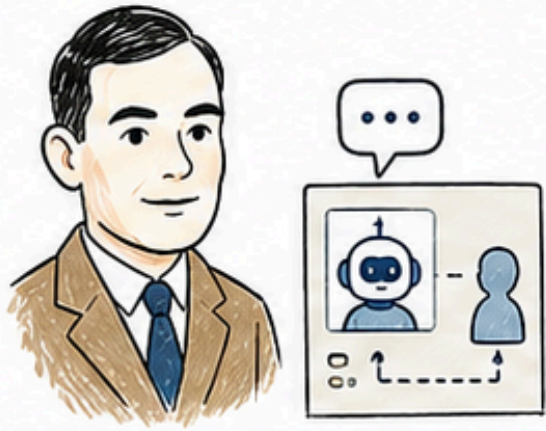
Deep Learning
breakthrough in
image recognition



AI Timeline

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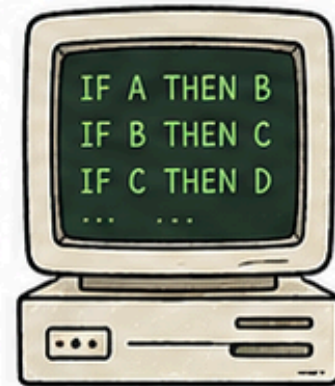
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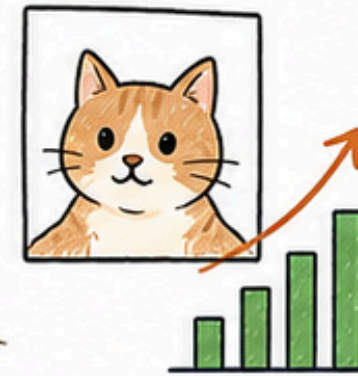
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Deep Learning
breakthrough in
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2017

Transformer
architecture
introduced
("Attention Is
All You Need")

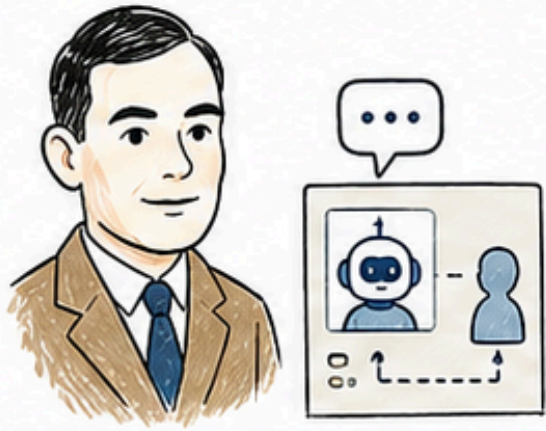
Foundation for
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AI Timeline

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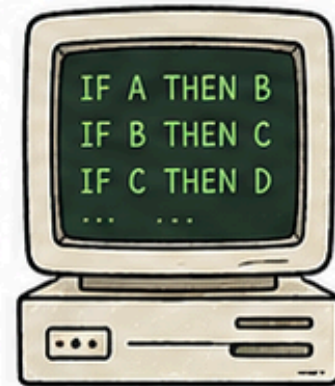
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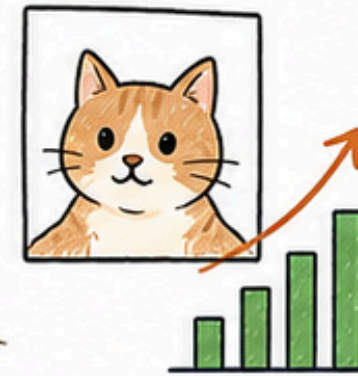
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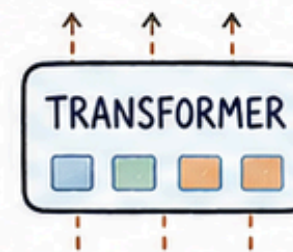
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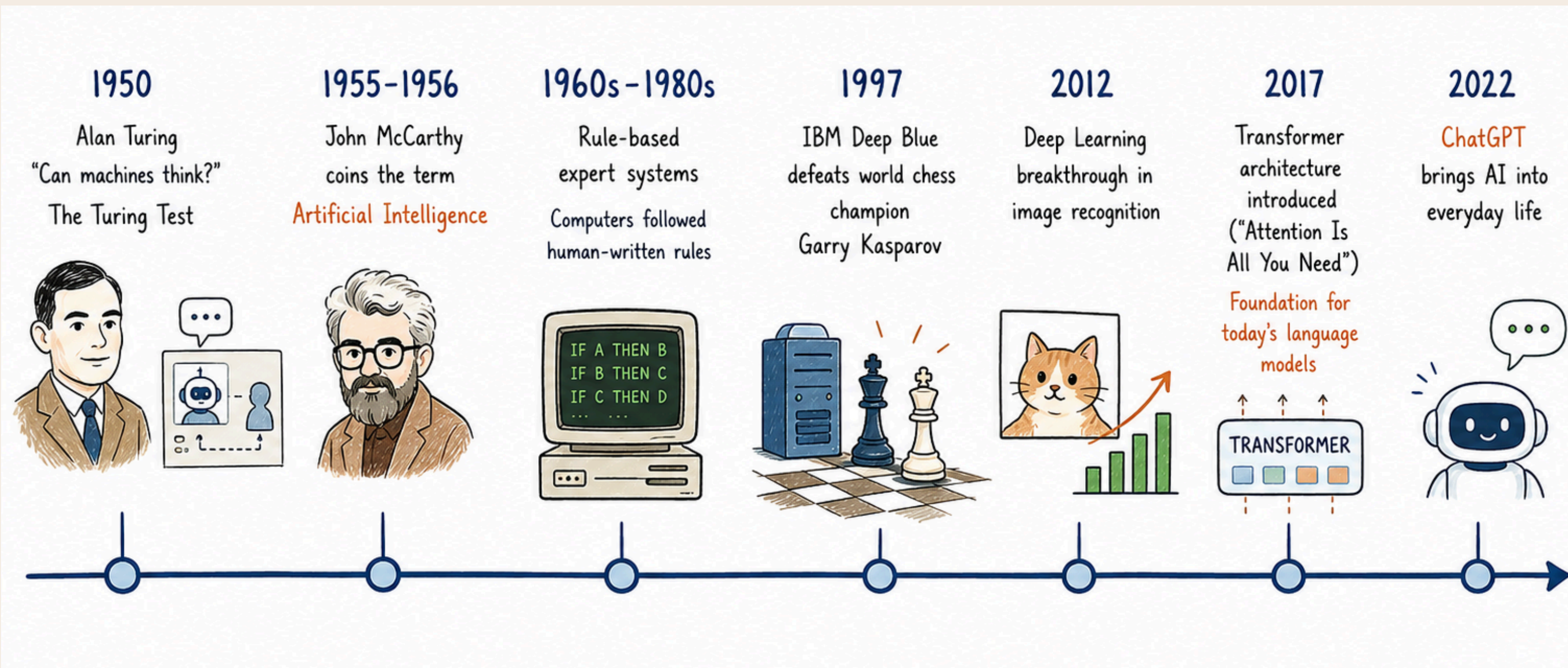


2022

ChatGPT
brings AI into
everyday life



AI Timeline



2026

Chatbots
AI Assistants
Autonomous AI
Image Generation

...

We have to talk about it...

We have to talk about it...

Large Language Models

We have to talk about it...

LLMs

LLMs ingest large amounts of human-written text and learn the statistical patterns of language.

LLMs ingest large amounts of human-written text and learn the statistical patterns of language.

Remember machine learning?

LLMs ingest large amounts of human-written text and learn the statistical patterns of language.

When you give them a prompt, they generate responses by calculating the mathematical probability of what word or phrase should come next

AI Considerations

AI Considerations

- **Data sovereignty**

AI Considerations

- Data sovereignty
- **Privacy and security**

AI Considerations

- Data sovereignty
- Privacy and security
- **Bias and fairness**

AI Considerations

- Data sovereignty
- Privacy and security
- Bias and fairness
- **Transparency**

AI Considerations

- Data sovereignty
- Privacy and security
- Bias and fairness
- Transparency
- **Human oversight**