

Fire Australia

Machine & Artificial Learning in Fire



1

Foundations and Early Ideas

- **1943:** Warren McCulloch and Walter Pitts introduced the concept of *artificial neurons*.
- **1950:** Alan Turing proposed the *Turing Test* as a criterion of intelligence.

2

Birth of AI: 1950s to 1960s

- **1957–1959:** Frank Rosenblatt developed the **Perceptron**, an **early neural network**, at the Cornell Aeronautical Laboratory.
- **1967:** The **nearest neighbor algorithm** was written, which allowed computers to begin using basic pattern recognition.

3

Machine Learning: Late 1980s to 1990s

- **1986: Backpropagation algorithm** popularised by David Rumelhart, Geoffrey Hinton, and Ronald Williams, significantly improved the training of neural networks.
- **1997:** IBM's **Deep Blue** *defeated world chess champion Garry Kasparov.*

Garry Kasparov



4

Big Data & Deep Learning: 2000 to 2010s

- **2006:** Geoffrey Hinton, Simon Osindero, and Yee-Whye Teh developed a **fast learning algorithm** for deep belief nets.
- **2012:** AlexNet, a deep convolutional neural network, won the ImageNet challenge, significantly reducing error rates in **image recognition**, sparking renewed interest in deep learning.

5

Modern Breakthroughs 2010's to 2020

- **2010s:** Breakthroughs in **deep learning** led to advancements in natural language processing and computer vision.
- **2016:** AlphaGo, developed by **DeepMind** (now owned by Google) defeated a world champion Go player, a landmark event showcasing the capabilities of AI.

Lee Sedol



AlphaGo

Lee Sedol



Google DeepMind
Challenge Match

8 - 15 March 2016

7a

Explosion in Artificial Intelligence

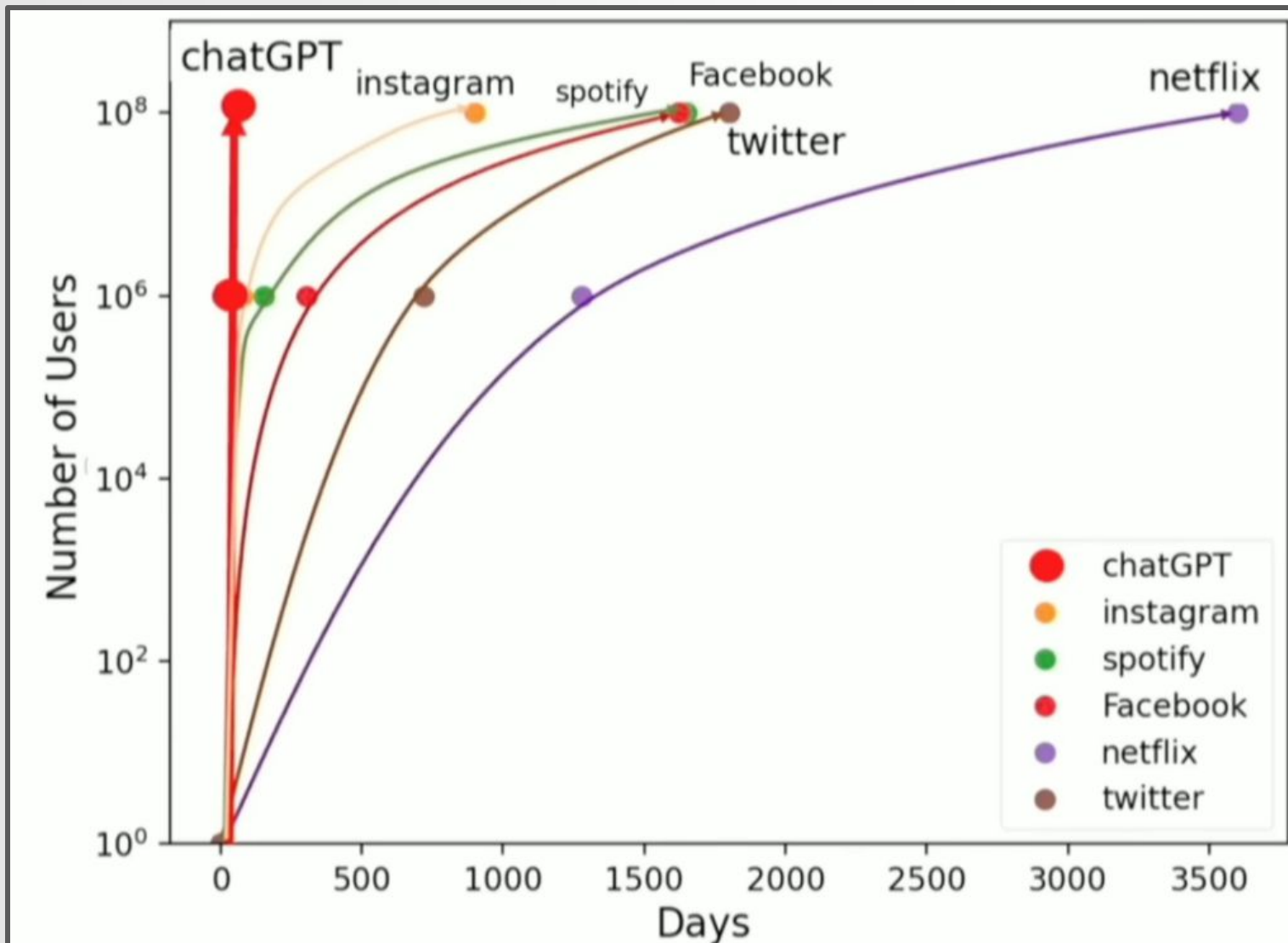
- November 2019: OpenAI introduces GPT-2 to the public, setting the foundation for future ChatGPT models.
- June 2020: GPT-3 is launched, offering significantly enhanced performance with 175 billion parameters.

7b

Explosion in Artificial Intelligence

- November 2022: ChatGPT based on GPT-3.5 is released to the public, making AI conversational models more accessible and robust.
- March 2023: ChatGPT-4 is launched, featuring even more advanced capabilities in understanding and generating text, suitable for a wider array of complex tasks.

Time to Reach 1 Million Users (2 Months)

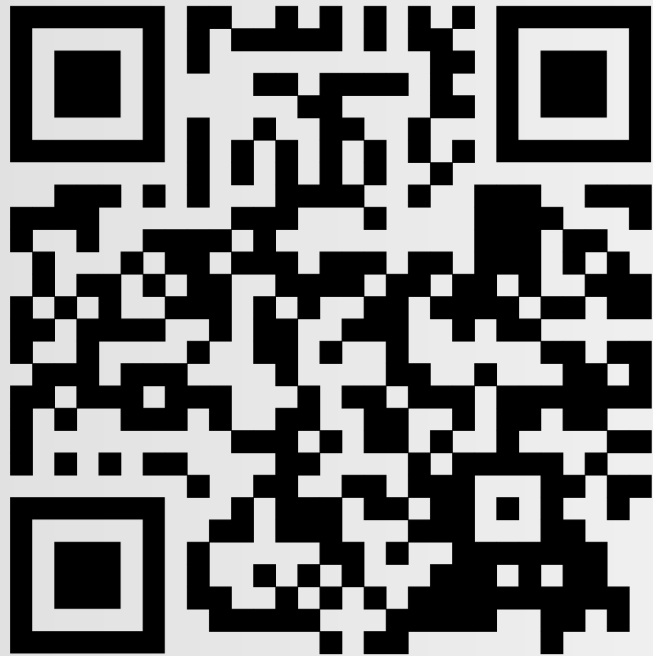


Who of you using a Large Language Model (LLM), like Chat GPT in your personal life, study or business now and how?

Can I use Chat-GPT now?



Let's Get Started (Download)



iPhone / iPad



Android

In just 1 year Evolution of AI VIDEO 2023-2024



Video TODAY



How am I using Chat GPT now?

7 Ways I'm using AI now!

- 1. Brainstorming**
- 2. Expanding ideas!**
- 3. Responding to emails.**
- 4. Improving content that I create!**
- 5. Image generation**
- 6. Plotting graphs.**
- 7. Research.**

13 AI Tools you can use TODAY!

<https://www.canva.com>

Design, Editorial & Marketing Tools for Business

13 AI Tools you can use TODAY!

<https://www.media.io>

The swiss army knife of media AI tools

13 AI Tools you can use TODAY!

<https://relume.io>

Websites designed & built faster with AI

13 AI Tools you can use TODAY!

<https://www.mixo.io>

With just a brief description use AI to generate websites in seconds.

13 AI Tools you can use TODAY!

<https://www.adobe.com/products/firefly.html>

Use generative AI and simple text prompts to bring your ideas to life.

13 AI Tools you can use TODAY!

<https://gamma.app>

Create beautiful, engaging content using AI to present your ideas.

13 AI Tools you can use TODAY!

<https://soundraw.io>

Unique AI Music Generation

13 AI Tools you can use TODAY!

<https://app.yoodli.ai>

AI Powered presenting & communication skills coach!

13 AI Tools you can use TODAY!

<https://piktochart.com>

AI-powered infographic maker. Turn any idea into a professionally designed infographic, poster, banner, and more in seconds, tailored to your brand's voice.

13 AI Tools you can use TODAY!

<https://collov.ai>

Creating Home Design at the Speed of Thought!

collov.ai uses artificial intelligence to transform your interior aspirations into stunning, visionary design renderings, merging convenience with aesthetics.

13 AI Tools you can use TODAY!

[**https://quillbot.com/ai-content-detector**](https://quillbot.com/ai-content-detector)

Detect AI content!

13 AI Tools you can use TODAY!

<https://www.synthesia.io>

Synthesia is an innovative AI video generator that allows users to create videos with realistic human presenters from text.

13 AI Tools you can use TODAY!

<https://otter.ai>

Never take meeting notes again. Get transcripts, automated summaries, action items, and chat with Otter to get answers from your meetings.

Something practical!
Let's build our own GPT!



Chat GPT Examples

ChatGPT

National Construction ...

Mission Statement Ge...

Explore GPTs

Today

AI & ML: Evolution Timeline

Yesterday

Structural Compliance Requireme

Fire Safety Objectives.

Fire Safety ML Integration

Previous 7 Days

Semantic Web Design Basics


Measure User Duration with Cooki

fall in love with the problem not

Add Team workspace
Collaborate on a Team plan

Russ Porteous

National Construction Code BOT



National Construction Code BOT

By Firewize Services Pty Ltd

Ask questions about Volume 1 of the 2022 edition of the National Construction Code.

When is a smoke detection and alarm system require...

What is the objective of Part E1 of the NCC?

What is the minimum width of an exits?

Message National Construction Code BOT

ChatGPT can make mistakes. Consider checking important information.



**We help discerning
building owners to
safely maintain fire
systems & equipment
to save people &
buildings from fire.**

