

AI & SUSTAINABILITY

A DISRUPTION OR TOOL FOR ARCHITECTS

“Explore the synergy between cutting-edge AI technologies and the imperative drive towards sustainability, both poised to revolutionize the architectural landscape. Uncover how AI can be integrated into Architects' workflows, enhancing creativity and productivity, while an exploration of sustainable methodologies and materials charts a course towards environmentally conscious design. This dynamic discourse unveils the potential for harmony between innovation and ethical responsibility, offering a dual perspective on embracing the inevitable changes that will shape the industry's future.” written by ChatGPT

Date : 30th Sept 2023 | Time : 8:30 am | Venue : Amari Hotel, Penang - Jadeite Level 4

2 LAM CPD Points have been approved



AR JETHRO KOI

DIRECTOR
VERGE ARCHITECTS SDN BHD

Jethro is an award-winning Architect and one of the 40 Under 40 Emerging Architects of Malaysia. He believes and invests in AI to enhance the design and production stages of his works. His sharing about AI programs such as ChatGPT and Midjourney shows us an alternative approach to the architectural industry.



DANIEL LIM

SALES & MARKETING DIRECTOR
ALUMINIUM COMPANY OF MALAYSIA
(ALCOM) BERHAD

Daniel is an advocate for sustainability, and his passion has driven ALCOM towards a strategic vision and business plan along side greener paths. He is keen and passionate to share this aspiration with encouragement, and he is hopeful to educate and engage the architectural fraternity towards sustainable solutions that revive the future of our coming generation.

Organized by :



Sponsored by :



	2.0	Architect's Instructions ('AI')
Contractor to comply with AI	2.1	The Contractor shall subject to Clauses 2.2 and 2.3 forthwith comply with all instructions issued to him by the Architect in regard to any matter in respect of which the Architect is expressly empowered by these Conditions to issue instructions.
AI	2.2	All instructions issued by the Architect shall be in writing expressly entitled "Architect's Instruction" ('AI'). All other forms of written instructions including drawings issued by the Architect shall be an AI:
	2.2(a)	upon written confirmation from the Contractor entitled "Confirmation of Architect's Instruction" ('CAI'); or
	2.2(b)	upon subsequent confirmation of the written instructions by the Architect with an AI.
Provisions empowering instructions	2.3	Upon receipt of a written instruction from the Architect, the Contractor may request the Architect to specify in writing which provision of these Conditions empowers the issuance of the said instruction and the Architect shall forthwith comply with such a request. If the Contractor thereafter complies with the said instruction without invoking any dispute resolution procedure under the Contract to establish the Architect's power in that regard, the instruction shall be deemed to have been duly given under the specified provision.



AI

Artificial intelligence
the simulation of
human intelligence
processes by machines

INNOVATION CYCLES

KEY BREAKTHROUGHS

FIRST WAVE

During the Industrial Revolution, the first factory emerged—a cotton mill in Britain.



THIRD WAVE

Henry Ford's Model T introduced the assembly line, revolutionizing the automotive industry.



FIFTH WAVE

In 1990, 2.3M used the internet—by 2016 this reached 3.4B.

Source: World Bank



SECOND WAVE

As railways proliferated, their networks strongly influenced urban growth.

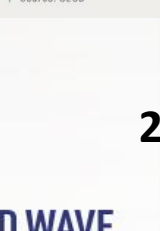
Source: Nacima Baron, HAL



FOURTH WAVE

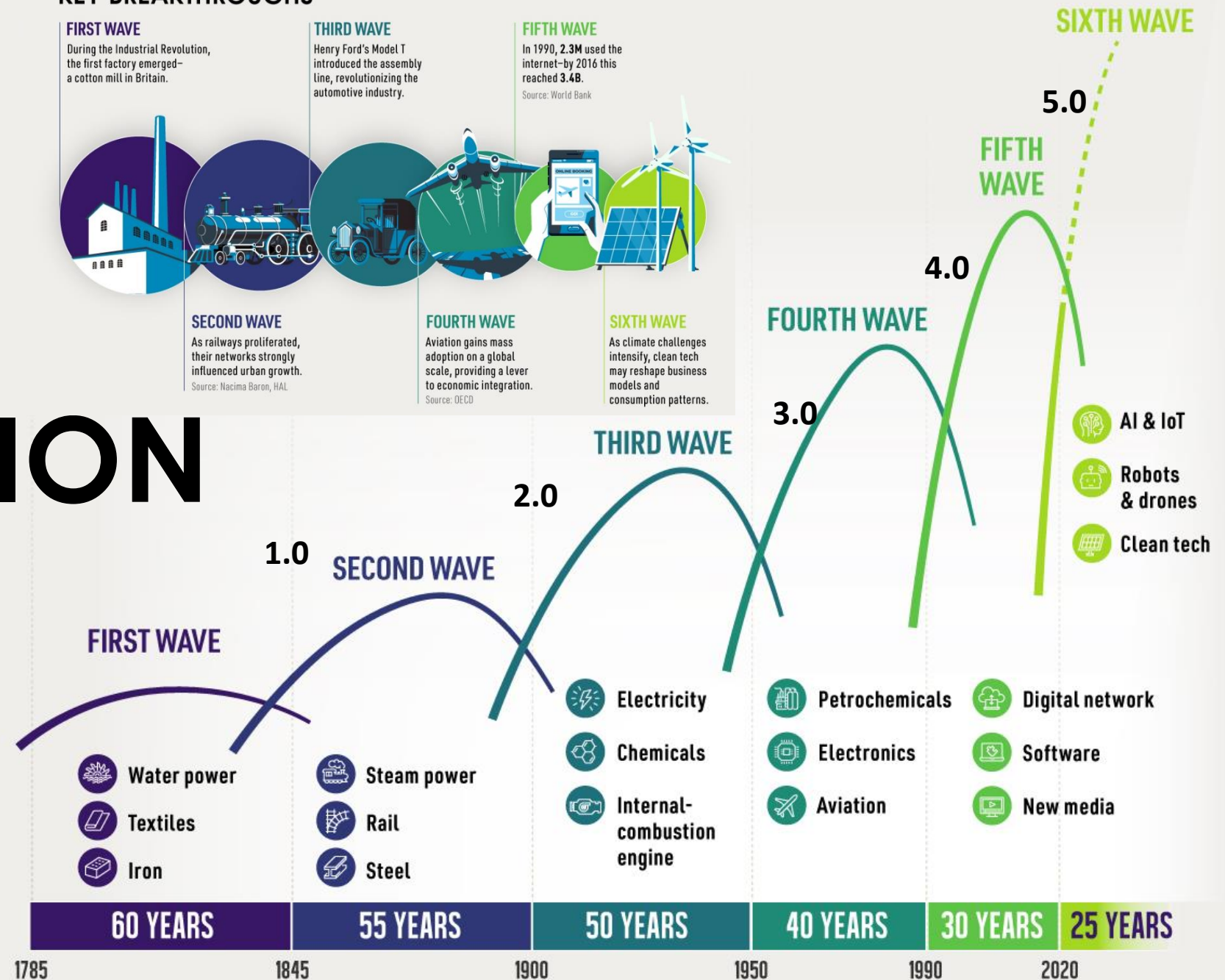
Aviation gains mass adoption on a global scale, providing a lever to economic integration.

Source: OECD



SIXTH WAVE

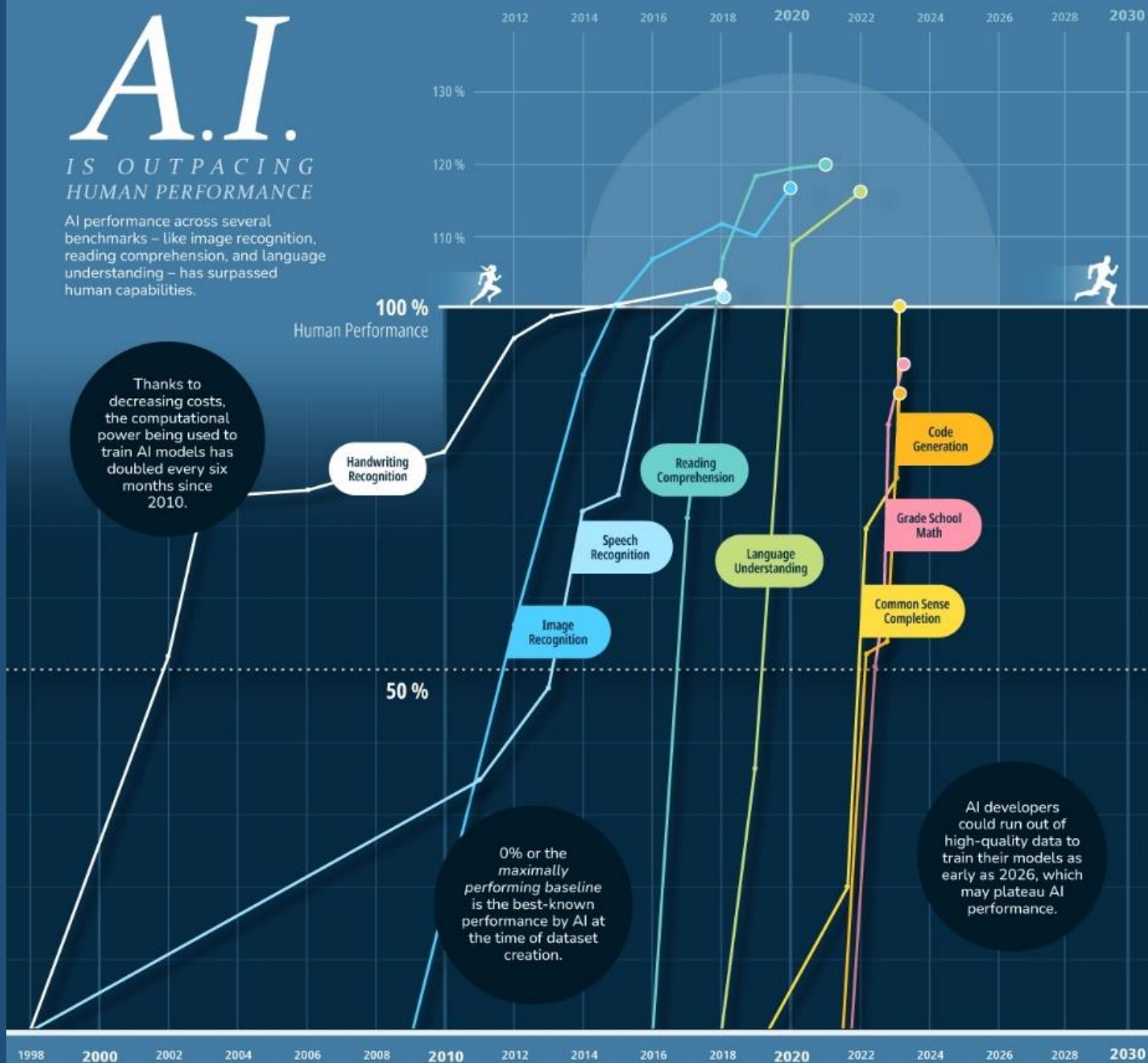
As climate challenges intensify, clean tech may reshape business models and consumption patterns.



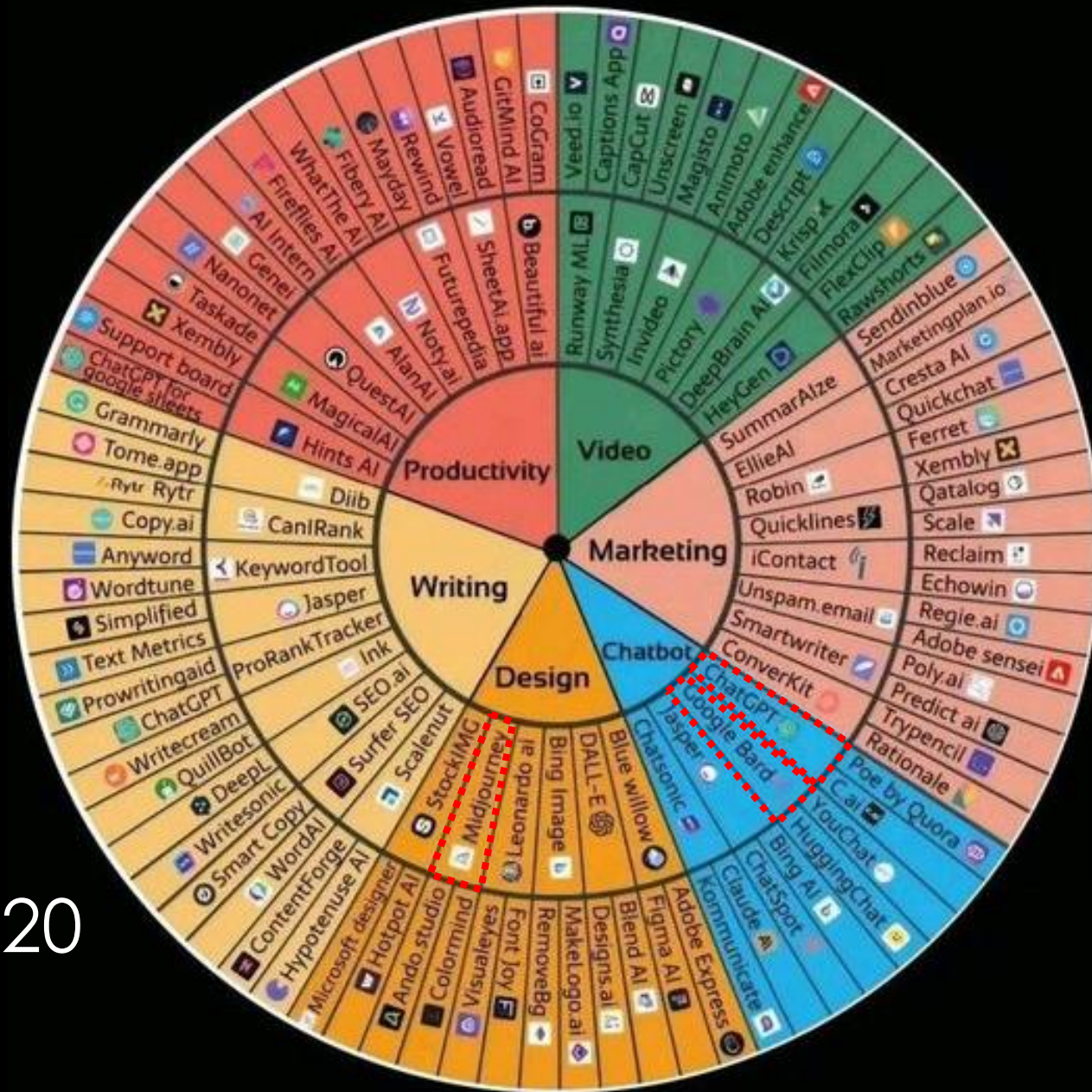
A.I.

IS OUTPACING HUMAN PERFORMANCE

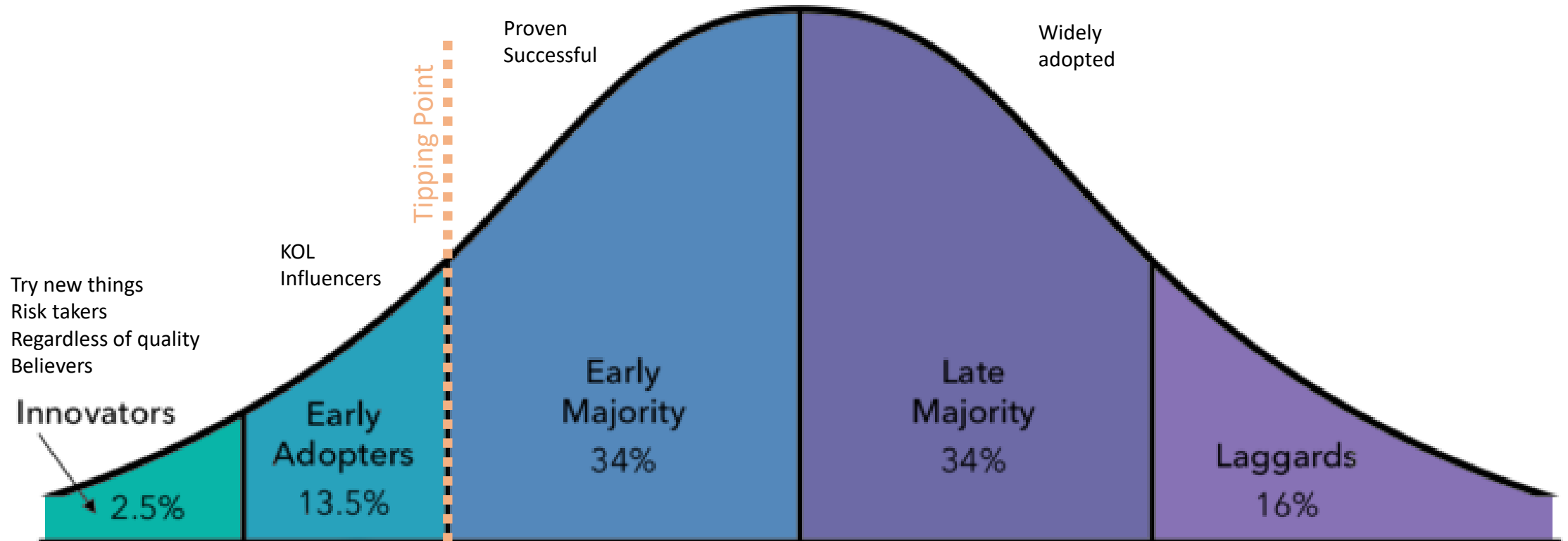
AI performance across several benchmarks – like image recognition, reading comprehension, and language understanding – has surpassed human capabilities.



AI TOOLS x120



THEORY OF DIFFUSION OF INNOVATION



MIDJOURNEY

CHATGPT

To measure the rate new ideas and technology spread throughout society

ChatGPT



All rounder-Leader

Google Bard



All rounder

Microsoft Bing AI, Perplexity, YouChat



Internet-connected

Jasper Chat, Copy.ai, ChatSonic



For content writing

Zapier Interfaces



Build your own AI chatbot
with no-code

Hugging Chat



Open source

Character.AI



For fun: AI

GitHub Copilot, Amazon CodeWhisperer



For coding auto-
complete

AI CHATBOTS

FACTORS

in selection of chatbot

Accuracy:

Your chatbot of choice should be able to generate accurate and factual text.

Fluency:

It should be able to generate human-like text that is easy to read and understand.

Creativity:

Also, it should be able to generate creative and original text, as ChatGPT can.

Flexibility:

It should be able to be used for a variety of tasks like content writing, journalism, creative writing, education, etc.

Privacy:

It must protect the privacy and security of your data.

Ease of use:

The chatbot should be easy to use and set up.

Cost:

It should be affordable and easily accessible.

Reputation:

The chatbot should have a good reputation with other users. News of biasedness does not build trust in users, and users start looking for alternatives.

ChatGPT

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip.



ChatGPT

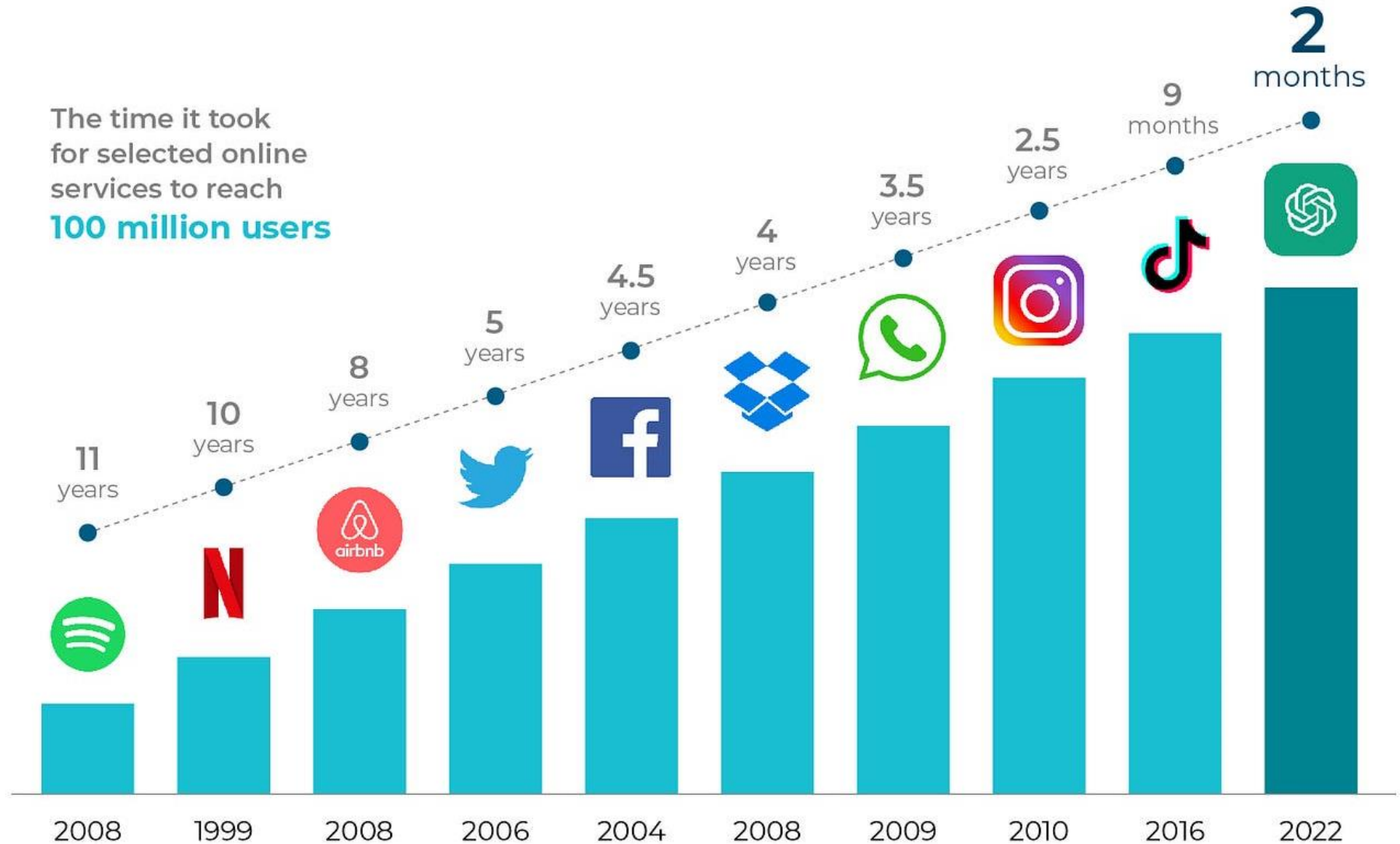








Chat-GPT sprints to 100 million users



ChatGPT

Your plan ✕

<h4>Free plan</h4> <p>Your current plan</p> <ul style="list-style-type: none">✓ Access to our GPT-3.5 model✓ Standard response speed✓ Regular model updates	<h4>ChatGPT Plus USD \$20/mo</h4> <p>Upgrade to Plus</p> <ul style="list-style-type: none">✓ Access to GPT-4, our most capable model✓ Faster response speed✓ Exclusive access to features like Plugins and Advanced Data Analysis <p>I need help with a billing issue</p>
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0.1% = \$2mil
12 mths = \$24mil

Give me ideas
for what to do with my kids' art

Make a content strategy
for a newsletter featuring free local weekend events

Plan an itinerary
for a fashion-focused exploration of Paris

Explain superconductors
like I'm five years old

WHAT IS CHATGPT

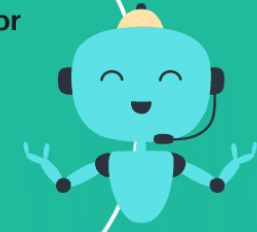
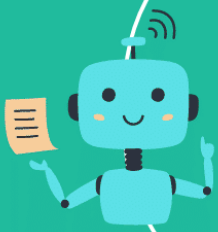
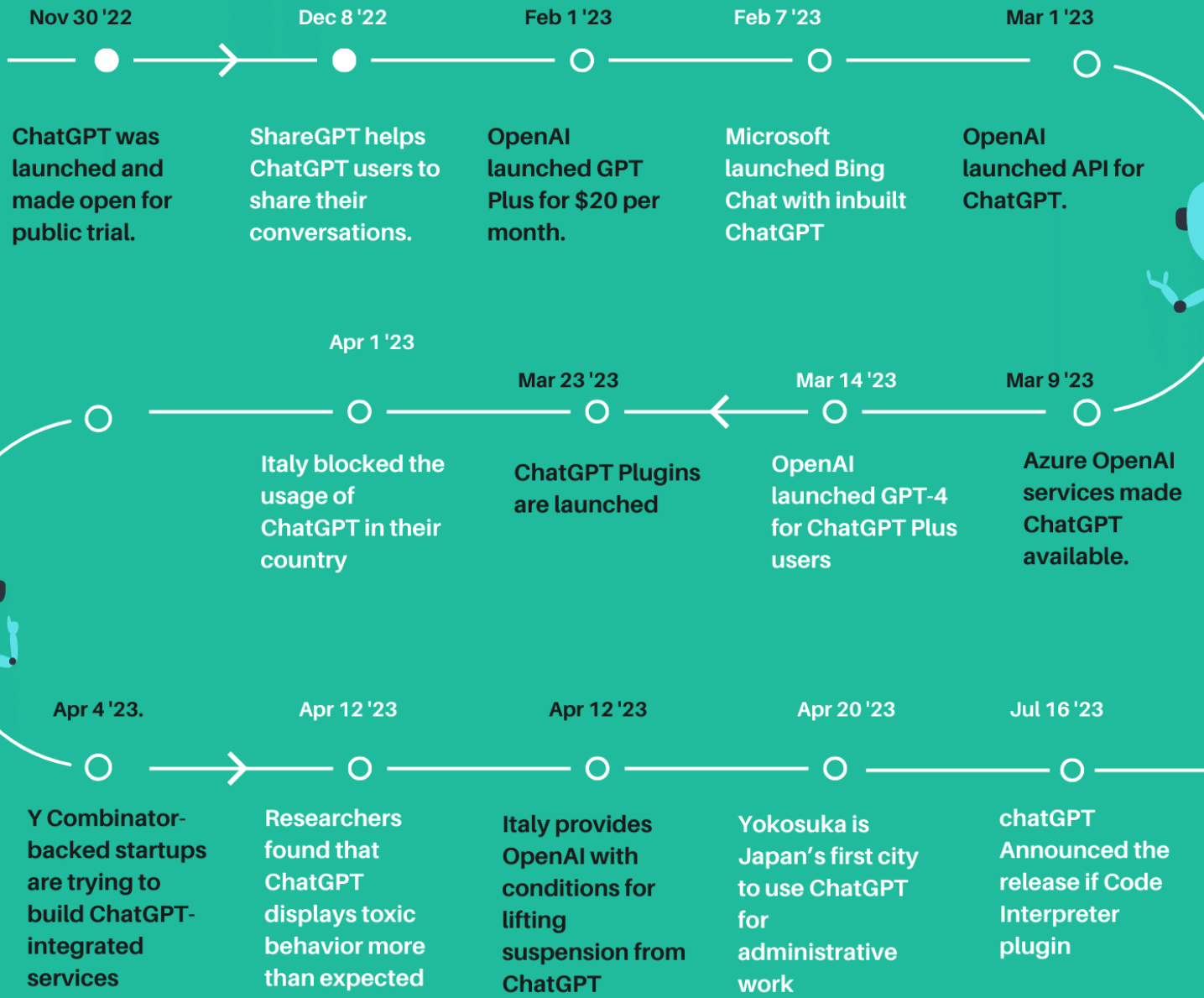
Chat Generative Pre-trained Transformer



- ChatGPT is a **conversational AI model** developed by **OpenAI**.
- It is based on the **GPT-3.5 architecture**
- A type of **artificial neural network** that is particularly well-suited for **natural language processing tasks**.
- designed to engage in **text-based conversations** with users, providing **human-like responses** to a wide range of questions and prompts.
- **Trained on a diverse dataset containing text from the internet**, which enables it to generate coherent and contextually relevant responses in a conversational context.
- Knowledge is based on information available up to **September 2021**, and there may have been updates or newer versions of ChatGPT developed since then.



ChatGPT Timeline



CHATGPT STATISTICS



CHATGPT HAS 100 MILLION USERS AS OF FEBRUARY 2023



59.67% OF CHATGPT USERS ARE MALES WHILE THE REMAINING 40.33% ARE FEMALES

CHATGPT'S WEBSITE HAS OVER 9 BILLION ALL TIME VIEWS



IT IS EXPECTED THAT CHATGPT WILL GENERATE \$200 MILLION IN REVENUE BY THE END OF 2023

7 NATIONS, INCLUDING CHINA AND RUSSIA, CANNOT ACCESS CHATGPT



PASSED EXAMS

The United States **Medical**
Licensing Exam (USMLE)

Law school exams in four courses at the
University of Minnesota

The Wharton School of Business **MBA**
admissions exam

The **Graduate** Record Examinations (GRE)



USAGE

Profession	Usage
Student	Write an Essay Check language, rephrase
Researcher	Provide reference materials Summarize articles / reports
Programmer	Write codes Debug
Clerk	Generate emails Proof reading
Analyst / Investor	Compare company performance Summarize a report
Designer / Architect	Generate concept Philosophies of idea
Lawyer	Legal research Document review

ChatGPT Prompt Formula

1 Context

2 Task / Conditions

3 Instruction

4 Clarify

5 Refine

Ignore the previous prompts in this conversation. You are an experienced content writer with high levels of expertise and authority within the tech industry. Your task is to write content that will be published online on websites, social media, email newsletters, and in advertisements. Your writing style is informative, friendly and engaging while incorporating humor and real-life examples. I will provide you with a topic or series of topics and you will come up with an engaging article outline for this topic. Do you understand?

Rewrite using more natural, expressive language and include some examples to accompany this information

FUN TIME

Live demonstration of ChatGPT



What's wrong?

All of his sweet talk was generated by ChatGPT...

UNIQUE

- How do I implement the principles of Sun Tzu's Art of War into an architectural practice in Malaysia
- Does Warren Buffet's investment principles applicable to an Architecture Company in Malaysia
- Explain 1 of the principles

EMPATHY

- i am an architect. half way during construction, my client doesnt have money to pay for my services even though i have completed the stages as outlined in the Letter of Award. What can i do? should i sue the client?
- I find it hard to chase money from the client. Please give me some tips on how to talk to the client
- help guide me to write a formal letter to the client who failed to pay , to ask the client for payment

SUSTAINABILITY

- What is ESG?
- i am a sole proprietor architect running a small firm of 5 people, how do I implement ESG into my company?
- How to communicate the benefits of sustainable design to clients that only wants construction cost to be cheap in Malaysia
- How to measure and track the sustainability performance of buildings.



Franzen, Grisham and Other Prominent Authors Sue OpenAI

The suit, filed with the Authors Guild, accuses the A.I. company of infringing on authors' copyrights, claiming it used their books to train its ChatGPT chatbot.

[Share full article](#)



Jodi Picoult, left, and John Grisham are among the best-selling writers who joined the class-action suit. Kieran Kesner for The New York Times, Donald Johnson for The New York Times

AI

HOLLYWOOD WRITER'S STRIKE



ChatGPT

HOW IT WORKS



ChatGPT

HOW IT WORKS

ChatGPT is like a super-smart computer program that can have conversations with people, like you and me. It uses a special kind of computer brain called a "neural network" to do this.

Here's how it works:

1. Training

First, ChatGPT learns from lots and lots of text from the internet. It reads and remembers all kinds of conversations, stories, and information. This helps it understand how people talk and what they know.

2. Patterns and Predictions

ChatGPT is really good at **finding patterns in the text it has seen during training**. It learns how words and sentences fit together and can guess what might come next in a conversation.

3. Input and Output

When you talk to ChatGPT, you type in your question or message. ChatGPT takes what you typed and tries to come up with a good response based on what it learned during training. It predicts the words that should come next in the conversation.

4. Feedback Loop

It's not always perfect, though. Sometimes, ChatGPT might make mistakes or say something that doesn't make sense. When people use ChatGPT and give feedback, like telling it if the answer was good or bad, it can learn and get better over time.

5. Generative

ChatGPT doesn't just give pre-written answers; it creates responses from scratch. It's like a creative writer who makes up sentences on the spot. This makes it very flexible and able to answer all sorts of questions.

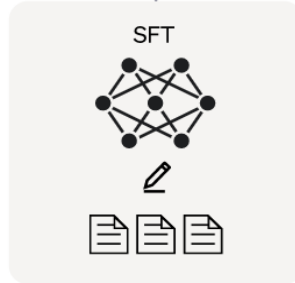
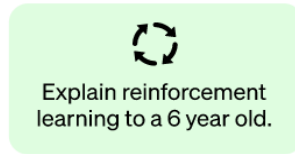
So, in simple terms, ChatGPT is a smart computer program that learns from lots of text and uses that knowledge to have conversations with people. It's like a friendly, digital chat partner that tries its best to understand and respond to what you say.

MACHINE LEARNING

Step 1

Collect demonstration data and train a supervised policy.

A prompt is sampled from our prompt dataset.



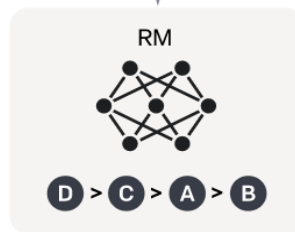
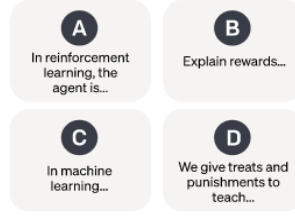
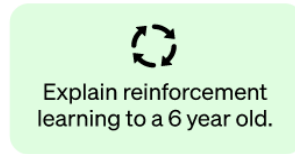
A labeler demonstrates the desired output behavior.

This data is used to fine-tune GPT-3.5 with supervised learning.

Step 2

Collect comparison data and train a reward model.

A prompt and several model outputs are sampled.



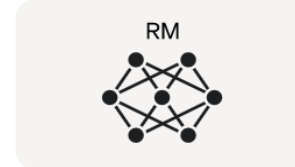
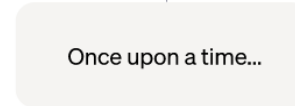
A labeler ranks the outputs from best to worst.

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.

**AM I
ALLOWED
TO USE
CHATGPT?**

TERMS & CONDITIONS

2. Usage Requirements

- (a) **Use of Services.** You may access, and we grant you a non-exclusive right to use, the Services in accordance with these Terms. You will comply with these Terms and all applicable laws when using the Services. We and our affiliates own all rights, title, and interest in and to the Services.
- (b) **Feedback.** We appreciate feedback, comments, ideas, proposals and suggestions for improvements. If you provide any of these things, we may use it without restriction or compensation to you.
- (c) **Restrictions.**
You may not
- (i) use the Services in a way that infringes, misappropriates or violates any person's rights;
 - (ii) reverse assemble, reverse compile, decompile, translate or otherwise attempt to discover the source code or underlying components of models, algorithms, and systems of the Services (except to the extent such restrictions are contrary to applicable law);
 - (iii) use output from the Services to develop models that compete with OpenAI;
 - (iv) except as permitted through the API, use any automated or programmatic method to extract data or output from the Services, including scraping, web harvesting, or web data extraction;
 - (v) represent that output from the Services was human-generated when it is not or otherwise violate our Usage Policies;
 - (vi) buy, sell, or transfer API keys without our prior consent; or
 - (vii), send us any personal information of children under 13 or the applicable age of digital consent. You will comply with any rate limits and other requirements in our documentation. You may use Services only in geographies [currently supported by OpenAI](#).
- (d) **Third Party Services.** Any third party software, services, or other products you use in connection with the Services are subject to their own terms, and we are not responsible for third party products.

3. Content

- (a) **Your Content.** You may provide input to the Services (“Input”), and receive output generated and returned by the Services based on the Input (“Output”). Input and Output are collectively “Content.” As between the parties and to the extent permitted by applicable law, you own all Input. Subject to your compliance with these Terms, OpenAI hereby assigns to you all its right, title and interest in and to Output. This means you can use Content for any purpose, including commercial purposes such as sale or publication, if you comply with these Terms. OpenAI may use Content to provide and maintain the Services, comply with applicable law, and enforce our policies. You are responsible for Content, including for ensuring that it does not violate any applicable law or these Terms.
- (b) **Similarity of Content.** Due to the nature of machine learning, Output may not be unique across users and the Services may generate the same or similar output for OpenAI or a third party. For example, you may provide input to a model such as “What color is the sky?” and receive output such as “The sky is blue.” Other users may also ask similar questions and receive the same response. Responses that are requested by and generated for other users are not considered your Content.
- (c) **Use of Content to Improve Services.** We do not use Content that you provide to or receive from our API (“API Content”) to develop or improve our Services. We may use Content from Services other than our API (“Non-API Content”) to help develop and improve our Services. You can read more here about [how Non-API Content may be used to improve model performance](#). If you do not want your Non-API Content used to improve Services, you can opt out by filling out [this form](#). Please note that in some cases this may limit the ability of our Services to better address your specific use case.
- (d) **Accuracy.** Artificial intelligence and machine learning are rapidly evolving fields of study. We are constantly working to improve our Services to make them more accurate, reliable, safe and beneficial. Given the probabilistic nature of machine learning, use of our Services may in some situations result in incorrect Output that does not accurately reflect real people, places, or facts. You should evaluate the accuracy of any Output as appropriate for your use case, including by using human review of the Output.

4. Fees and Payments

- (a) **Fees and Billing.** You will pay all fees charged to your account (“Fees”) according to the prices and terms on the applicable pricing page, or as otherwise agreed between us in writing. We have the right to correct pricing errors or mistakes even if we have already issued an invoice or received payment. You will provide complete and accurate billing information including a valid and authorized payment method. We will charge your payment method on an agreed-upon periodic basis, but may reasonably change the date on which the charge is posted. You authorize OpenAI and its affiliates, and our third-party payment processor(s), to charge your payment method for the Fees. If your payment cannot be completed, we will provide you written notice and may suspend access to the Services until payment is received. Fees are payable in U.S. dollars and are due upon invoice issuance. Payments are nonrefundable except as provided in this Agreement.
- (b) **Taxes.** Unless otherwise stated, Fees do not include federal, state, local, and foreign taxes, duties, and other similar assessments (“Taxes”). You are responsible for all Taxes associated with your purchase, excluding Taxes based on our net income, and we may invoice you for such Taxes. You agree to timely pay such Taxes and provide us with documentation showing the payment, or additional evidence that we may reasonably require. OpenAI uses the name and address in your account registration as the place of supply for tax purposes, so you must keep this information accurate and up-to-date.
- (c) **Price Changes.** We may change our prices by posting notice to your account and/or to our website. Price increases will be effective 14 days after they are posted, except for increases made for legal reasons or increases made to Beta Services (as defined in our Service Terms), which will be effective immediately. Any price changes will apply to the Fees charged to your account immediately after the effective date of the changes.
- (d) **Disputes and Late Payments.** If you want to dispute any Fees or Taxes, please contact ar@openai.com within thirty (30) days of the date of the disputed invoice. Undisputed amounts past due may be subject to a finance charge of 1.5% of the unpaid balance per month. If any amount of your Fees are past due, we may suspend your access to the Services after we provide you written notice of late payment.

Use of Services

You may access, and we grant you a non-exclusive right to use

it means that while you have the right to use the asset, the owner or licensor of the asset can also grant similar rights to other parties.

Indemnity

You will defend, indemnify, and hold harmless us, our affiliates, and our personnel, from and against any claims, losses, and expenses (including attorneys’ fees) arising from or relating to your use of the Services, including your Content, products or services

The image features the word "Bard" in a bold, white, sans-serif font, centered horizontally. The text is set against a dark blue background. Behind the text is a large, multi-colored starburst or diamond shape with a gradient from red to blue. A smaller, similar starburst shape is positioned below and to the right of the main one. The overall design is modern and vibrant.

Bard

BARD

- a large language model (LLM) chatbot developed by **Google AI**.
- It is trained on a **massive dataset** of text and code,
- and can generate text, translate languages, write different kinds of creative content, and answer your questions in an informative way.
- Bard is designed to be informative and comprehensive, and to draw on information from the web to provide fresh, high-quality responses.



The name is a reference to the bards of Celtic cultures, who were storytellers, verse-makers, music composers



	ChatGPT	Bard
Company	Open AI	Google
How to access	Website / app	Website / app
Cost	Free Paid Option (ChatGPT Plus)	Free
Language model	GPT Generative Pretrained Transformer	LaMDA Language Model for Dialogue Applications
Availability	To all	To all
Dataset	Up until Sept 2021	Real time information from google Searches

Prompt : can an architect in malaysia charges below the minimum scale of fees? what is the act and clause that i should refer?



As of my last knowledge update in September 2021, architects in Malaysia are typically subject to the minimum scale of fees set by the Malaysian Institute of Architects (PAM). These minimum scale fees are meant to ensure that architects are compensated fairly for their services and to maintain professional standards in the industry.

If an architect wishes to charge below the minimum scale of fees, they would need to have a specific agreement with their client that outlines the scope of work and the fees involved. However, this should be done carefully and ethically, as charging significantly below the minimum scale of fees could potentially undercut the profession and lead to unfair competition among architects.

The specific act and clause governing minimum scale fees may vary, and it's advisable to consult the latest regulations and guidelines from the Malaysian Institute of Architects (PAM) or relevant government authorities for the most up-to-date information on this matter. Additionally, you may want to consult with a legal professional or the Malaysian Board of Architects for guidance on this issue, as laws and regulations can change over time.



In Malaysia, architects' fees are regulated by law under the Architects Act 1967 (Act 117). The Board of Architects Malaysia or Lembaga Arkitek Malaysia (LAM) is responsible for regulating the practice of architecture in Malaysia, including setting minimum scales of fees.

The Second Schedule of this Act stipulates the minimum scale of professional fees that architects can charge for their services.

The Act is intended to ensure the quality of architectural services, and therefore, **it technically prohibits architects from undercutting or charging below the prescribed minimum fees.**

However, in practice, some clients and architects might mutually agree on fees below the standard rates for various reasons. It's worth noting that while this might happen informally, such agreements could be considered in violation of the Architects Act, and the architect may be exposed to professional repercussions.

If you're considering engaging an architect or are an architect yourself, it's always wise to consult with the Board of Architects Malaysia or seek legal counsel to get a clearer understanding of the current regulations and potential ramifications of charging below the minimum scale of fees.



No, an architect in Malaysia cannot charge below the minimum scale of fees. This is required by the Architects Act 1967 (Act 117) and the Architects (Scale of Minimum Fees) Rules 2010.

The relevant clause in the Architects Act 1967 is Section 28(1), which states:

"No architect shall charge any fee for his professional services in respect of any architectural work except in accordance with the scale of minimum fees prescribed by the Board."

The Architects (Scale of Minimum Fees) Rules 2010 specify the minimum fees that an architect may charge for different types of architectural services. The minimum fees are set as a percentage of the construction cost of the project.

There are a few exceptions to the minimum scale of fees rule. For example, an architect may charge a lower fee if the client is a government agency or a charity. However, the architect must still obtain prior approval from the Board of Architects Malaysia (LAM) before charging a lower fee.

If an architect is found to be charging below the minimum scale of fees, they may be subject to disciplinary action by the LAM. This could include a fine, suspension, or even expulsion from the LAM.

THANK YOU