THE IMPACT OF AI ON MARKETING: FROM ALGORITHMS TO ARTISTRY

Rethinking creativity and content marketing through artificial intelligence

Ogilvy

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We have never seen a technology quite like artificial intelligence.

The potential of AI is captivating; the hype surrounding it undeniable. Its world-changing capability, coupled with the speed at which it has improved in quality, is pointing undeniably towards a future of ubiquity.

But AI is like wisdom in a box. This box, when opened, can be one of two distinctly different things. One option is being a horn of plenty: a cornucopia of possibility that allows us to be exponentially more productive than ever—the ultimate supplement to human potential, reorienting our expectations and opening new possibilities for how humans spend their valuable and finite time on earth. The other possibility is that AI is Pandora's box, and that opening it will be the collective crossing of a line—disrupting, and, according to some people, destroying what makes us human.

Whichever it ends up being, there's little doubt that AI is here to stay. It has, in some ways, broken the "hype cycle" that most preceding emerging technologies endured (or fell prey to). Think of the Metaverse, which went from the peak of inflated expectations to the trough of disillusionment at breakneck speed. AI, in contrast, seems to be skipping the trough altogether, jumping from the peak of expectations straight to the plateau of productivity.

David Ogilvy once said that we "*pursue knowledge the way a pig pursues truffles.*" This paper represents our search for knowledge about AI and its potential impact on how brands communicate with their audiences. As an agency committed to driving impact, we must be willing to explore and exploit any tool, process, or capability that enables us to uncover the ideas that ultimately create that impact.

Thus, we are equally excited and cautious about AI. It is our responsibility to learn as much as we can about it, and about the potential it holds, so that we understand how it can effectively be used to benefit our clients, as well as society as a whole. This paper serves as a starting point for that exploration. It serves as our first peek inside the box.

On a personal note, as a Greek myself, I'm filled with pride that this incredible, insightful paper was created by our brilliant talent in Ogilvy Athens. It has become my bedtime reading (though it does not put me to sleep).

Antonis Kocheilas
Global CEO, Advertising
Ogilvy


IT'S ALL
AI TO ME

IT'S ALL AI TO ME

Artificial intelligence, also known as (and more commonly referred to as) "AI," has monopolized the conversation about technological developments worldwide.

The rapid growth of easy-to-use tools based on AI technologies or assisted by AI is increasingly contributing to the integration of this trend into our daily lives.

At the same time, there is an increase in discussion of a few grey areas and the need for tighter policy frameworks.

But what exactly do we define as AI?

Essentially, AI refers to the creation of computer systems which are capable of reproducing human cognitive functions.

These systems can "understand" their environments, solve problems and, to a certain extent, adapt their behavior based on previous actions. The current ecosystem that provides AI with such capabilities includes several subcategories that are often used in combination with each other in order to create intelligent systems. To name a few:

Machine learning

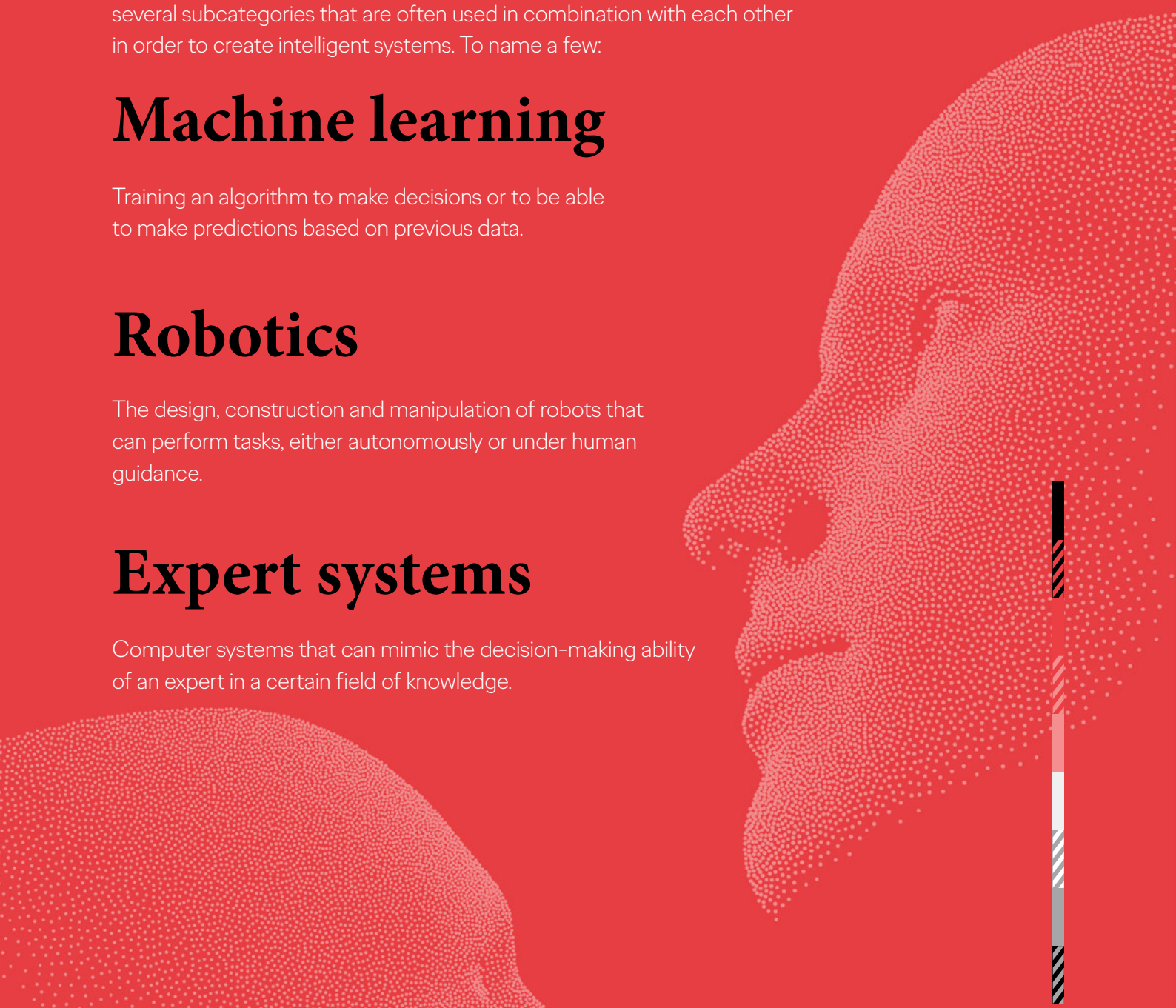
Training an algorithm to make decisions or to be able to make predictions based on previous data.

Robotics

The design, construction and manipulation of robots that can perform tasks, either autonomously or under human guidance.

Expert systems

Computer systems that can mimic the decision-making ability of an expert in a certain field of knowledge.



Natural-language processing

The ability of computers to understand, interpret, and "create" human language, including spoken and written text.

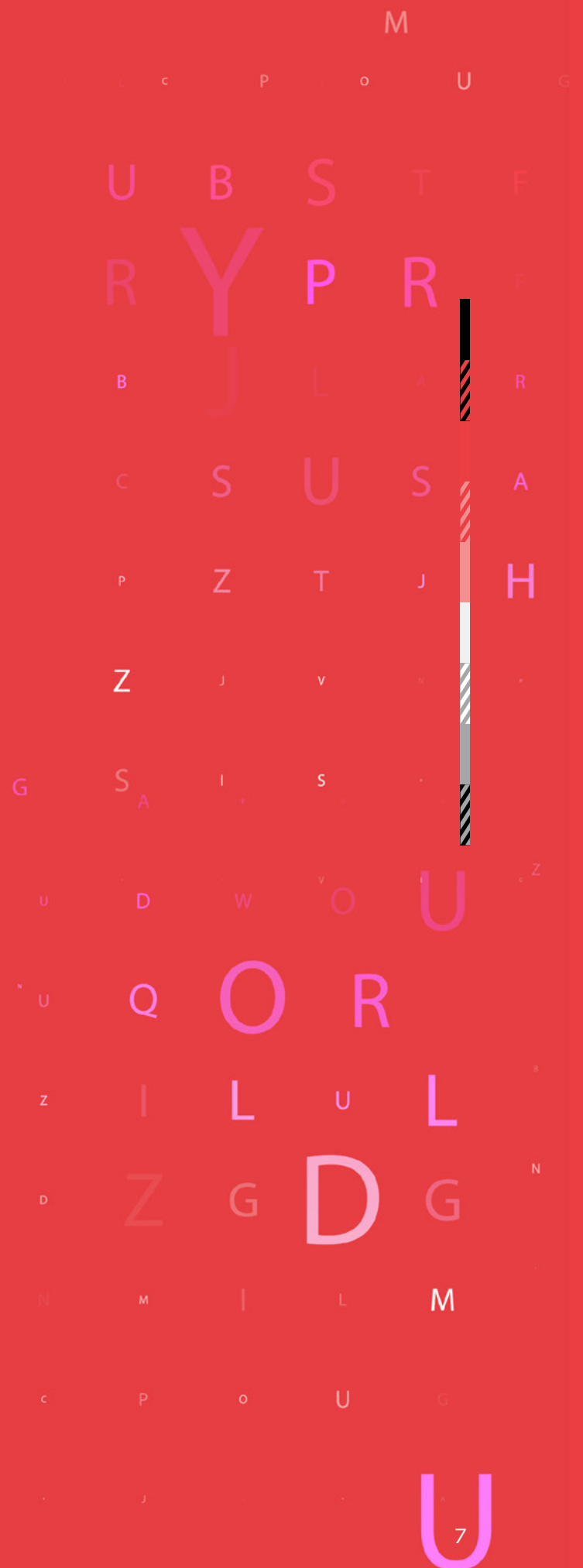
Computer vision

The ability of systems to interpret and analyze visual information from the world, such as, for example, images and videos.

Deep learning

A type of machine learning that uses artificial neural networks to process and analyze large amounts of data.

And while AI continues to break new ground, some of its applications are already inextricably linked to our everyday lives.



IS ALL AROUND

Navigation applications

One of the first ways AI was harnessed was through navigation apps, such as Google Maps and Waze. With the goal of finding the optimal route between two points, variables such as traffic and weather were factored in effectively; newer features can identify common user movements and predict users' destinations.

Ride-sharing applications

The development of navigation applications also led to a new model of commuting. Apps such as Uber and Lyft use AI to match passengers with drivers and to calculate fares automatically, but also to improve the safety of the passengers.

Video Games

Artificial intelligence has long been used in video games; also noteworthy are the possibilities that AI offers for new ways of designing games, such as improving interactions with non-player characters and enabling a more personalized gaming experience by giving each user more freedom.

Facial recognition

Despite several privacy concerns, the use of facial recognition technology is quite widespread, particularly with mobile phones and on social media platforms.

Smart Assistants

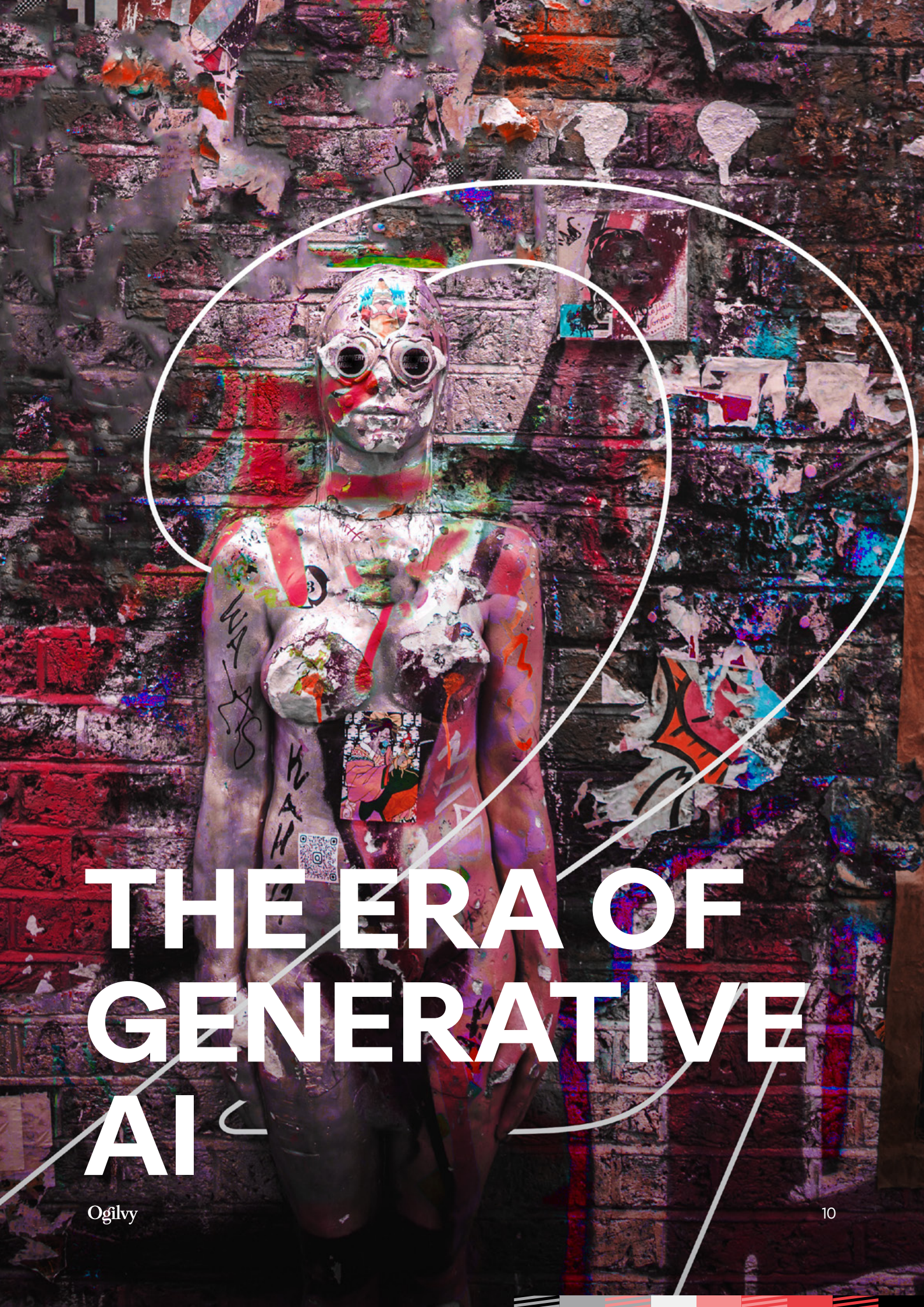
Smart assistants, such as Google Assistant and Alexa, are becoming more and more popular as the technology supporting these digital assistants soars thanks to neural networks that improve the recognition of user speech patterns.

Banking

The use of AI by banking institutions is constantly growing. It contributes decisively to the creation of smart tools, in particular chatbots, to better manage customer requests and also to detect fraud through machine learning, which can recognize changes in customers' routine transactions.

Medical services

Artificial intelligence is also transforming the medical care sector. Prevention, early diagnosis, clinical trials and education are becoming more effective thanks to AI, which is constantly learning from the huge amount of medical data already available to hospitals.



THE ERA OF GENERATIVE AI

Humans are good at analyzing data. Machines, however, are even better.

Machines can analyze large volumes of data faster and identify patterns for a variety of different uses, from predicting the estimated delivery time of a project to selecting the next TikTok video to appear in a viewer's "For You" feed.

This is analytic AI, the traditional artificial intelligence we've known for years.

Humans, however, are better than machines are at creating.

They write poetry, compose music, paint artwork, design products, and create games. Until recently, the possibility of machines competing with humans in creativity seemed far-fetched.

Through the recent viral expansion of ChatGPT and DALL·E, we are witnessing a new category of artificial intelligence called "generative AI," in which a machine produces something new rather than analyzing something that already exists.

This is a historic development in artificial intelligence—one that Bill Gates called as fundamental as the creation of the microprocessor, the personal computer, the Internet, and the smartphone.

> "It will change the way people work, learn, travel, get health care and communicate with each other."
>
> Bill Gates
>
> Microsoft Co-Founder

These are deep machine learning systems that produce creative original content, such as text, images, music, videos, simulations, drawings, 3D objects, and code, among others.

Generative AI models simulate the way we think by using algorithms that "learn" from each use, initially collecting millions of data points, such as labels of images, text, or other media tags, and gradually identifying patterns that allow the machines to understand them and independently create new content.

This form of artificial intelligence may have come to the forefront recently, but, actually, it is not a new conquest in the evolution of AI.

But why all this talk about generative AI?

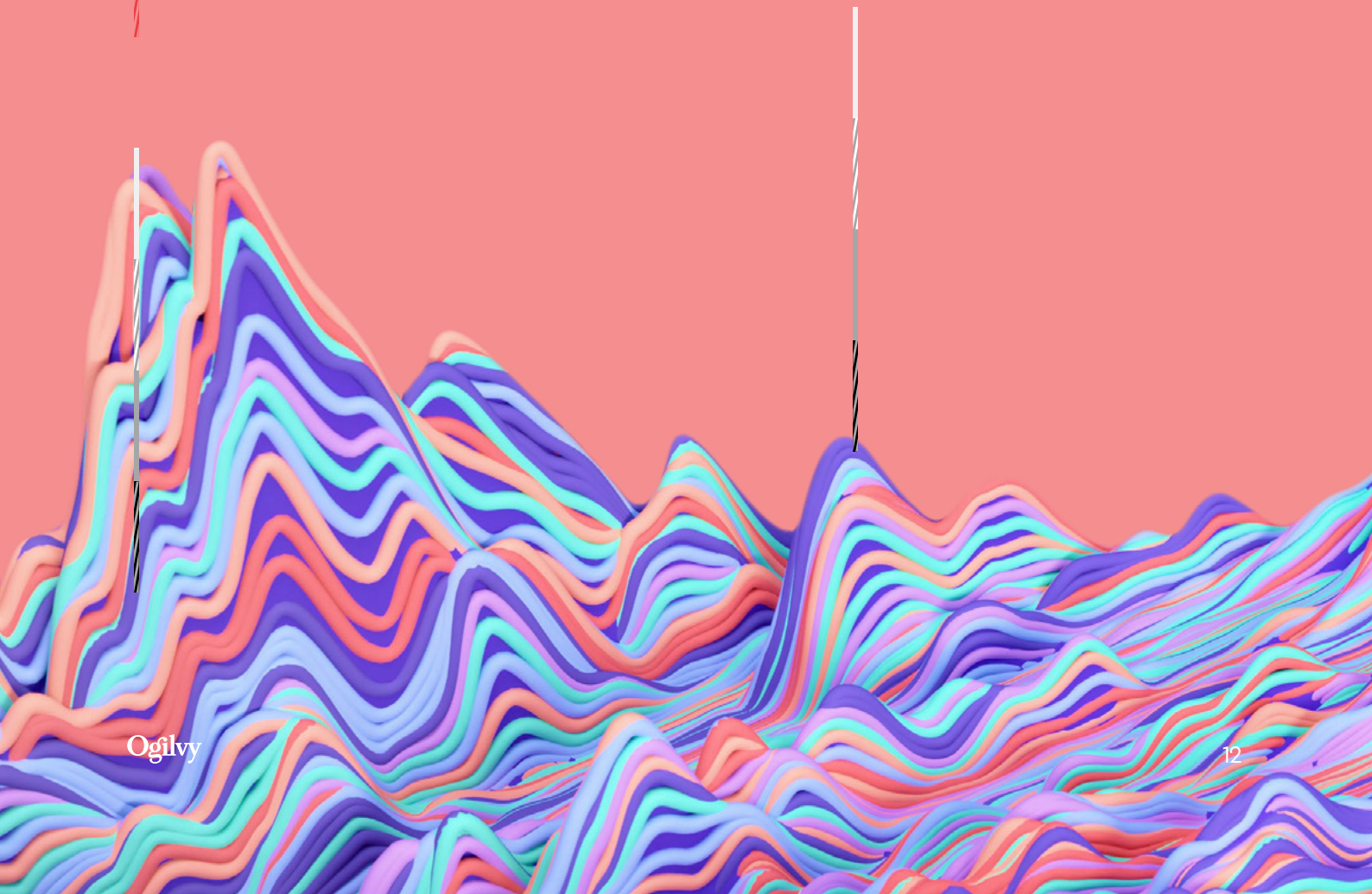
Let's take a historical look back.

Before 2015

Small AI models dominated and they were considered innovative in the understanding of language. They excelled in analytical tasks; however, they were not expressive enough for general production work. Creating human-level writing and code still seemed like a distant dream.

2015-2022

The computing power used to train the AI models increased significantly, making them capable of outperforming humans in written and spoken language, image recognition, and language comprehension. The cost, however, to run them on cloud services and their availability mostly in beta form, prevented their use from being widespread.



2015

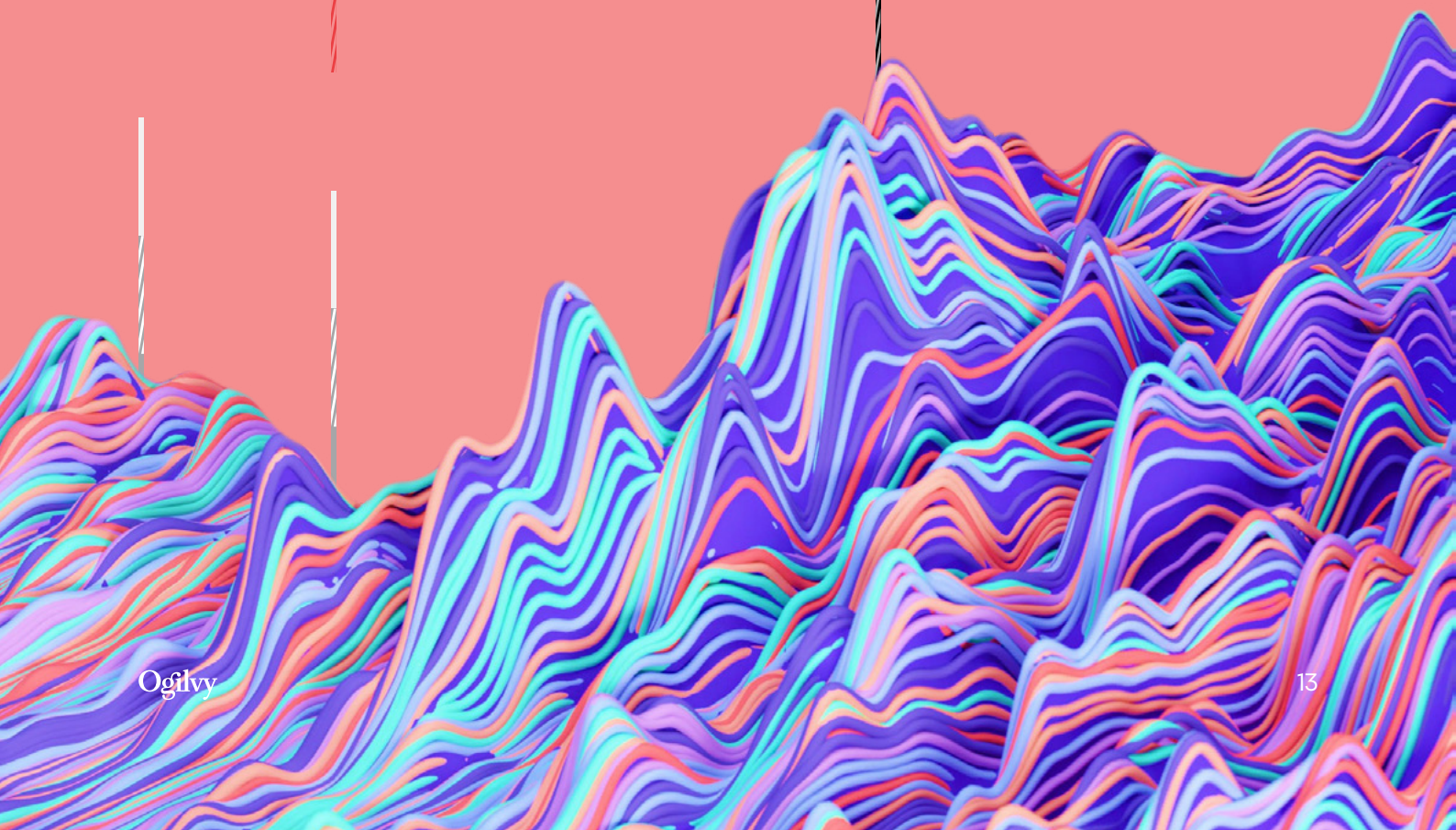
An iconic paper from Google, "Attention Is All You Need," described a novel neural network architecture for language understanding that could produce superior-quality language models with reduced training time.

2022

Cheaper computing power and all the latest techniques significantly reduced the cost of training new models; also, better algorithms were developed for larger models. These were increasingly accessible in open-beta and open-source form.

Today

New models are getting better, faster and cheaper to implement. Free access makes their use even more widespread. The increasingly fast-paced evolution of artificial intelligence models in recent years, reduced training costs, the possibility of more free and mass access, and, last but not least, increasing investment in companies and startups that develop models are bringing generative AI to the forefront of interest, driving many people to test the potential of the tools being developed. But how can we use them?




PROMPTS,
IN OTHER
WORDS,
BRIEFS...

Most generative AI models are very simple to use. Quite a few of them are available for free or through optional premium subscriptions with add-on benefits not included in the free versions.

Although platforms may differ in procedures and steps, they usually require the user to register and set up a personal account with an email address and two-step verification. Once the tools are activated, testing is done by creating prompts.

Prompts are the foundation of any creation through generative AI.

In their most common form, prompts are texts through which users instruct a model to generate the requested output, such as an image or a report.

Although they may take the form of images, music, video, or even chemical compounds for use in drug development, prompts provide the information to allow the AI to produce the requested material.

A prompt is actually our command—in other words, our brief—to the AI.

And as is usual with briefs, the more detailed and clearly articulated they are, the closer our request will be to the desired result.

So understanding how users can formulate prompts helps determine the value and the output the users get from the model.

Indeed, the ability to create and fine-tune prompts has emerged as a skill, with terms such as “prompt crafting” and “prompt engineering” now being encountered more and more frequently.

Even though the creation of prompts depends on the user, there are four elements or components, that make up a complete text prompt. For example, consider an attempt to synthesize an image:

Step 1 | Type of content

We define what type of material we want AI to generate (e.g., sketch, newspaper article, 3D image, business plan, and so on).

"An image of..."

Step 2 | Description

We define the subject, its characteristics and the wider context. The more detailed the description through the use of adjectives, the better the output is likely to be.

"An image of a cute, fluffy dog sitting next to a fireplace in a Victorian house"

Step 3 | Style

We define the overall artistic style, which may include elements such as lighting, details, artistic movement, or even the name of a well-known artist.

"An image of a cute, fluffy dog sitting next to a fireplace in a Victorian house at night, in the style of Monet"

Step 4 | Composition

The remaining elements of the prompt, such as aspect ratio, angle, and resolution, will determine the final composition.

"An image of a cute, fluffy dog sitting next to a fireplace in a Victorian house at night, in the style of Monet, in 8K"

Another element that can contribute to the composition of an informative prompt is role-playing—asking AI to take on a specific role in order to better interpret what is being asked.

For example, a user who wishes to write an article may ask the prompt to assume the role of a New York Times editor.

In addition, prompts allow users to enter URLs from images, text, or other sources, which can be used as references to help the model better understand the prompt.

USES AND APPLICATIONS OF GENERATIVE AI

Now that we've analyzed what generative AI is all about and how it works, it's worth looking at its main applications.

1. IMAGE APPLICATIONS

Text-to-Image

As evidenced by the popular DALL·E model, generative AI can transform text into realistic images, taking into account a plethora of factors that can determine the final result.

Semantic Image-to-Photo

By leveraging a semantic sketch or image, generative AI can synthesize a realistic image.

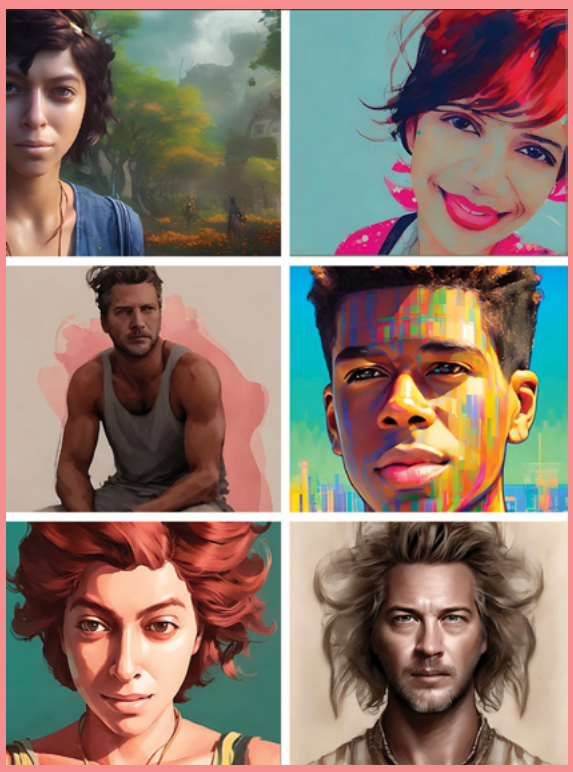


Image-to-Image

Generative AI can convert the external elements of an image (e.g., color, medium, and shape) and synthesize them into a new one.

Think of the transformation of a face from young to old, which was a trend in social media a few years ago with applications such as FaceApp, and has appeared more recently with Lensa, which allows the creation of multiple illustrated images through the use of face selfies.

Image Resolution Increase

Generative AI uses various methods, such as generative adversarial networks (GANs), to generate new content based on existing content.

GANs consist of generators and discriminators that generate new data that remain realistic, allowing optimal image resolution.

2. TEXT APPLICATIONS

Text Generation

This is perhaps the most advanced area of generative AI to date.

The example of ChatGPT shows how high the bar has been set in generating texts that simulate human handwriting for text synthesis with sufficient fidelity.

3. AUDIO APPLICATIONS

Text-to-Speech

GANs can also make possible the generation of audio materials based on texts written by users; these audio materials are extremely realistic in terms of the tone and color of the voice.

Speech-to-Speech

As with text to speech, generative AI can create audio material by using the human voice as a source.

In this way, voice-overs are easily and quickly created without the need for voice artists.

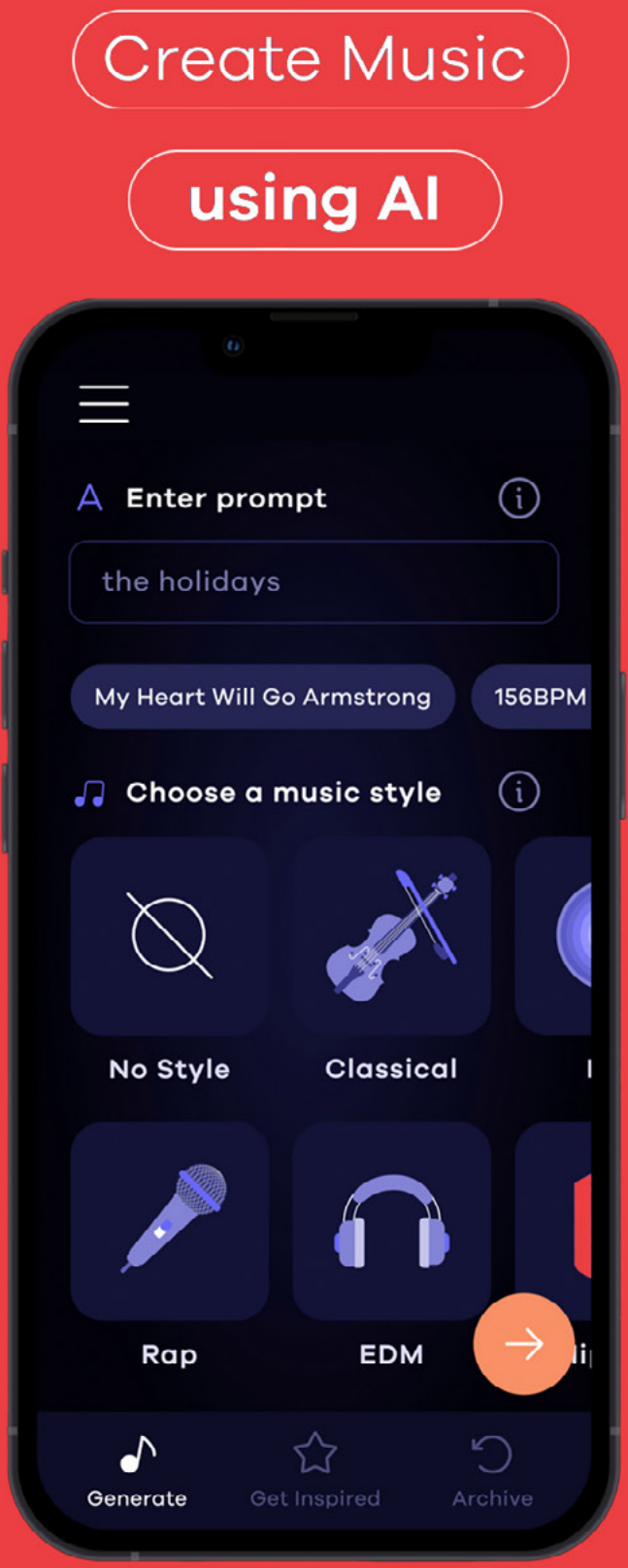
Music Generation

Generative AI can compose music from text prompts or other human input, such as whistles and humming.

A good text prompt could, for example, describe the rhythm, the melody, the timbre, and the various musical instruments desired.

But the prompt could also be as simple as the title of an artwork.

For example, Google Research developed the MusicLM model and, to present it, asked the algorithm to synthesize music samples from well-known paintings. Wonder how Van Gogh's painting "Starry Night" might sound? Here's how the model imagines it.

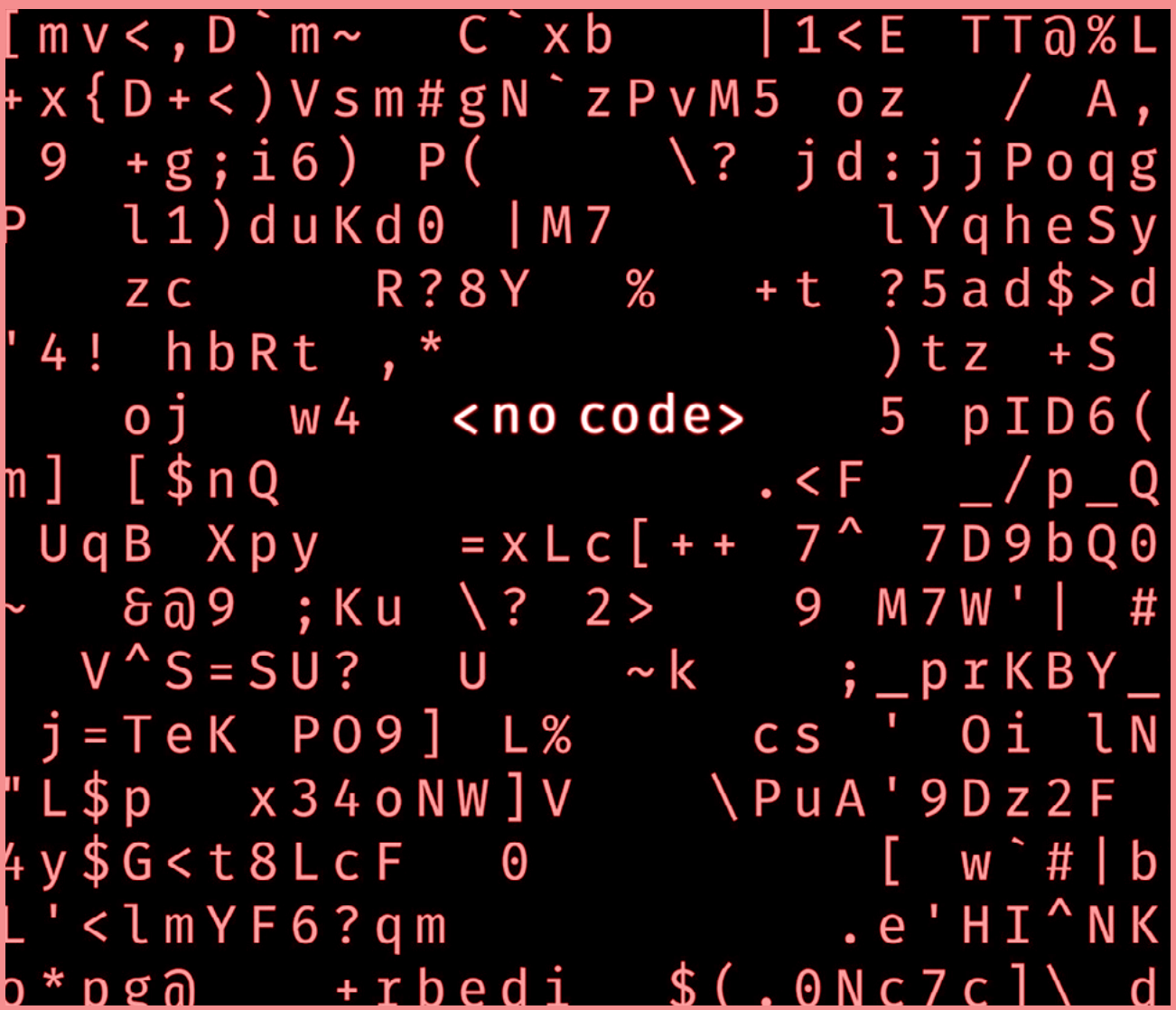


4. CODE APPLICATIONS

Code Generation

Code-generation AI systems have the ability to write in multiple programming languages, reducing the cost of software development.

Although there are several sophisticated models, such as OpenAI's DeepMind, many of the most-powerful systems are not available to the public as open-source systems.

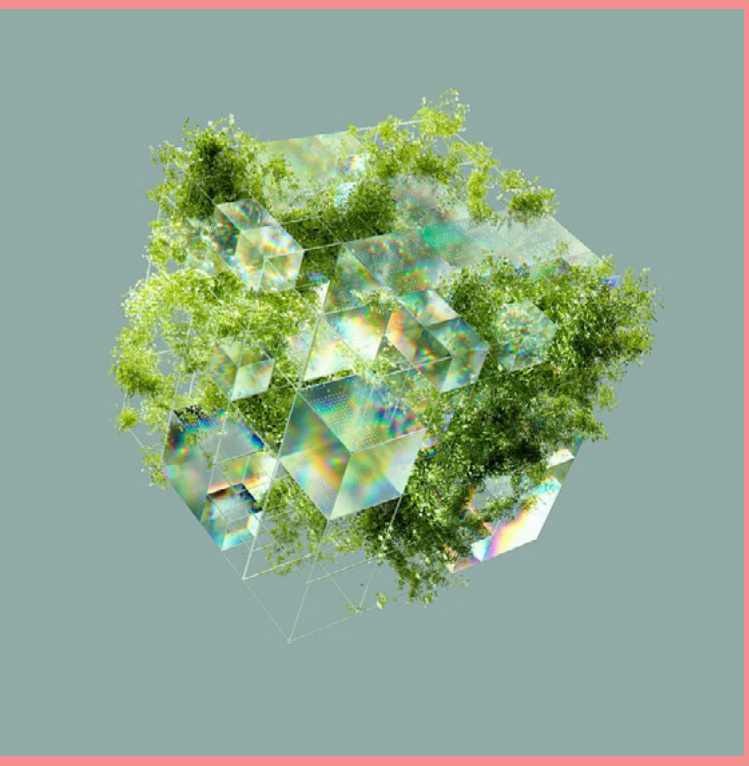


5. VIDEO APPLICATIONS AND 3D MODELS

Video Generation

Users no longer have to worry about finding the equipment, the location, or even the presenters for a video production.

Through a wide range of customizable templates, AI avatars and text-to-speech tools, any user can set up a video production without necessarily having any knowledge of video-editing skills. Isn't that awesome?



3D Shape Generation

Through machine learning systems and text prompts, AI can create 3D models within minutes.

Although this application is not yet as sophisticated as text-to-text and text-to-image models, and a lot of research on it is still going on, there are already tools available that synthesize 3D objects, such as OpenAI's Point-E.

ELON MUSK, CHATGPT, DALL·E 2 AND MICROSOFT

With the ambitious goal of "ensuring that artificial intelligence is developed in a way that is safe for humanity," OpenAI was founded in December 2015 in Silicon Valley, California, initially as a nonprofit organization conducting research on AI technology and practices.

Its founding team includes the organization's developer and current CEO, Sam Altman; LinkedIn's co-founder Reid Hoffman; Greg Brockman; and the entrepreneur, engineer, and billionaire Elon Musk.

OpenAI switched to a hybrid "capped profit" model in 2019, meaning that the profits earmarked for shareholders and investors are limited, and the remaining funds are to be redirected to the organization's nonprofit activities.

Due to conflicting interests with Tesla, which has been ramping up its AI research into self-driving systems for its vehicles, Musk stepped down from the board of OpenAI in February 2018. He still remains a donor, but he is no longer associated with OpenAI LP, the for-profit arm of the organization.

With the aim of democratizing AI technology so that no one could enslave others with the “Trojan horse” of artificial intelligence, OpenAI started its activities by making its research as well as its intelligence and open-source tools accessible to everyone.

Gym, the organization’s first creation, launched in 2016, was a machine-learning platform that allowed researchers to develop and compare reinforcement-learning systems, training them to make decisions designed to lead to the best possible results.

After that came the release of Universe, a software platform for measuring and training an AI’s general intelligence across the world’s supply of games, websites, and other applications.

In a relatively short period of time, OpenAI was ranked by AI researchers among the top three AI labs in the world; in just two years it had developed game-playing systems able to beat humans in video games such as Dota 2.

The organization entered the spotlight with the introduction of the generative pretrained transformer or GPT for short.

GPT

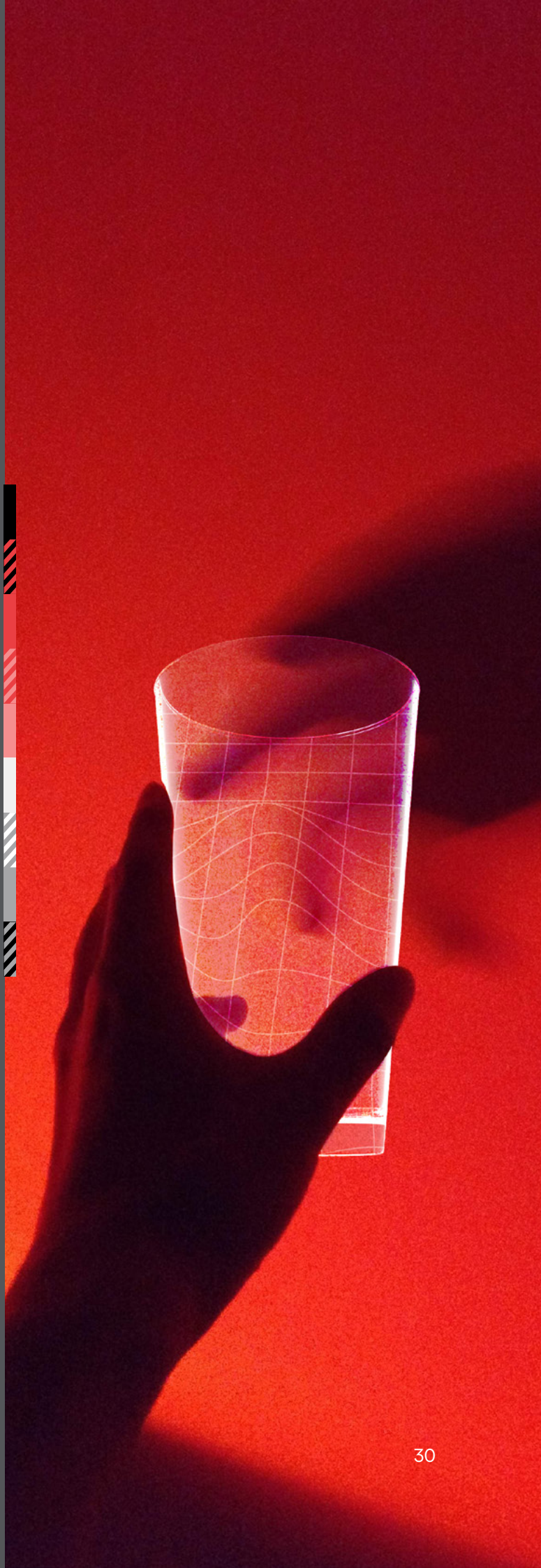
A Revolution in AI

In June 2018, a detailed paper was published on OpenAI's official website describing how researchers had unlocked some key developments in language models. This gave birth to what most people now know as GPT, an algorithm that belongs to the group of "language generators," it uses machine learning to generate texts that look as if they were written by humans, and to create realistic conversations.

The model was trained using text databases pulled from the Internet, including digital books, texts and articles, to identify not only information but also patterns in language, writing, and speech.

All this data was assimilated and processed by artificial neural networks—a series of powerful computational models—so that AI could understand how language is used and decide on its own which words to employ when it generated text. It used 117 million parameters (that is, trained values), making text prediction possible.

Less than a year later, in February 2019, OpenAI announced GPT-2, an advanced version of GPT that included 1.5 billion parameters, 10 times more than its predecessor.



OpenAI decided not to make GPT-2's full source code public due to "safety and security concerns," with the OpenAI team in its official announcement expressing the fear that the trained model could be used maliciously to create and spread fake news.

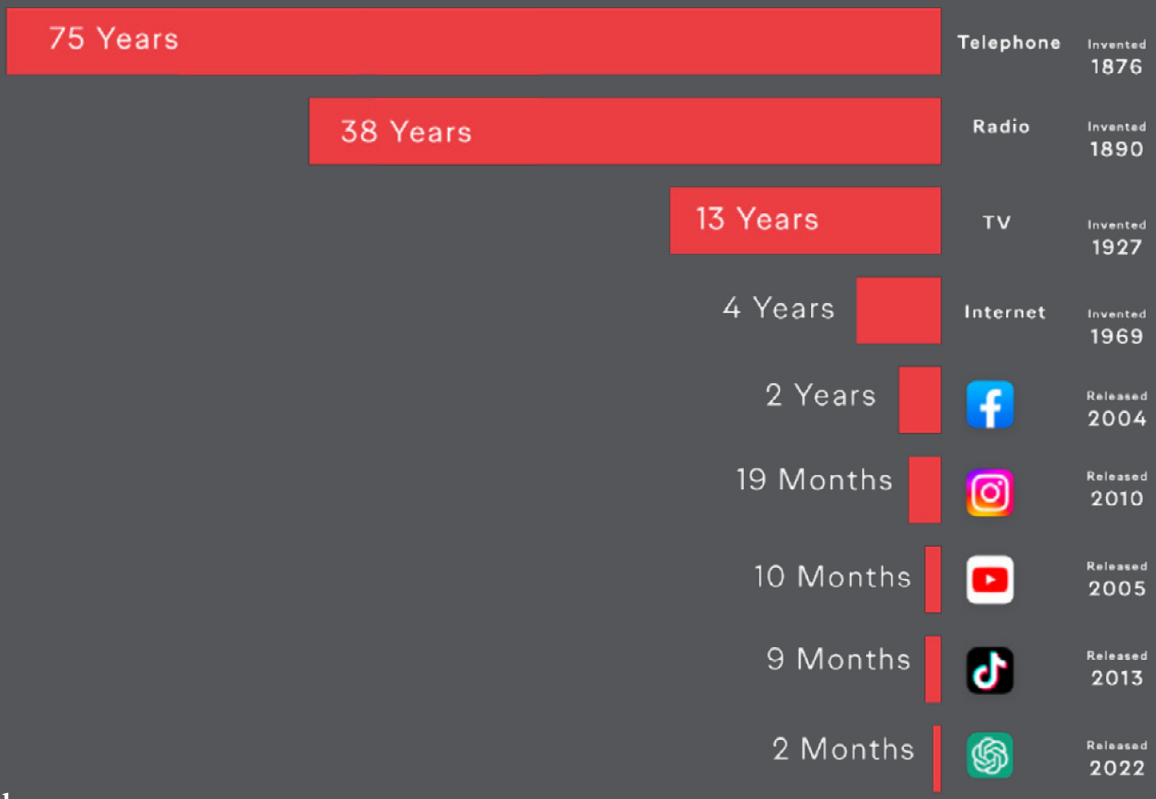
After all, it was a statistical model that examined the use of the language on the Internet and predicted the next word or phrase, without relying on a database exclusively containing valid information about people and events.

The next and more-advanced generation of the model, GPT-3, arrived in May 2020. It holds the record for the largest artificial neural network ever created, with 175 billion parameters.

To put it in context, the next most powerful language model, Microsoft's Turing-NLG algorithm, had 17 billion parameters.

Gradually, the GPT-3 model became available to everyone for testing, and it learned to avoid complications through ongoing optimizations.

Although the core principle remained the same as in the previous two versions, the third generation of the model exceeded all expectations. It was capable of delivering higher-quality results and of executing complex instructions and even writing code. The successful GPT-3 experiment significantly contributed to the upgrade of the language models and gave birth to the latest and perhaps greatest success story of OpenAI—until the next one: ChatGPT!



THE "SCARY GOOD" CHAT-GPT AND THE SEARCH "MILL"

The launch of the new chatbot by OpenAI in late November 2022 immediately flooded the Internet with articles, videos, reviews, podcasts, tweets, and memes, creating the ultimate buzz around the new achievement in artificial intelligence.

Where popular platforms and services such as Instagram, Spotify, Dropbox, and Netflix took months or even years, to break the barrier of 1 million users, ChatGPT only took five days!

Even Elon Musk himself, now following the innovations of the organization he had co-founded from a distance, tweeted that "ChatGPT is scary good."

ChatGPT uses GPT-3.5, a more advanced version of GPT-3, which allows users to chat with the model about anything from 2021 or before!

GPT-3.5 was trained on a blend of text and code published by the end of 2021, which means that the algorithm neither has access to nor can it process more recently released facts, data, information, and events.

At present, ChatGPT does not disclose exactly where it draws its information from, raising questions about the reliability of its sources, since examples of misinformation can be observed even in the first presentable results.

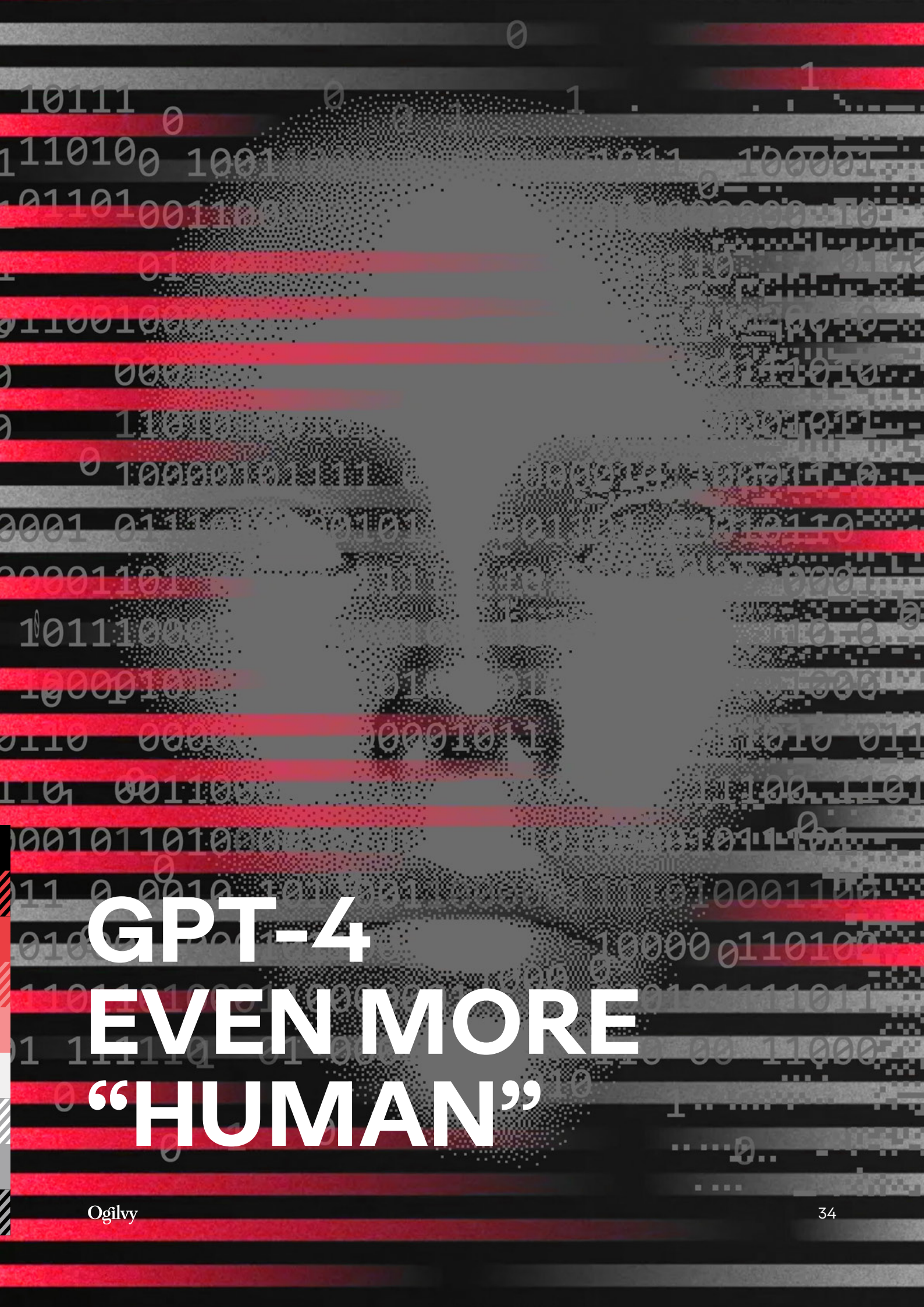
The model was also trained with a deep-learning technique called "reinforcement learning from human feedback" (RLHF), and it has the ability to simulate written dialogue, answer follow-up questions, admit errors, challenge incorrect assumptions, and reject inappropriate requests.

What has made the model stand out is not only the way it generates thoughts and information, but also its ability to convey them in a very "anthropomorphic" style of communication, seeming familiar to users. It is also quite impressive that the chatbot can "recall" previous conversations with each specific user and use that information to optimize its responses.

And all this comes without any financial burden for users, as ChatGPT is available for free directly from OpenAI's website—at least for the trial period.

But how does this benefit the organization? Most likely, it takes advantage of the users' interactions with the tool to collect data that could assist in corrective actions for the model's optimization and further development. It remains unknown, however, what data might be collected from users and the conversations they have with the model.

Alongside the free version described above, in February 2023 OpenAI announced ChatGPT Plus, the subscription plan of the platform, which costs $20 per month and includes perks such as access to testing new features, faster response times from the software, and priority access even during heavy traffic.



GPT-4 EVEN MORE “HUMAN”

The next milestone in OpenAI’s effort to scale deep learning came in March 2023.

GPT-4 was announced by the organization and was set to be released initially exclusively to subscribers of ChatGPT Plus, putting an end to countless rumors and much speculation regarding the new upgrades the model would feature.

OpenAI’s new product can solve complex problems with higher accuracy thanks to its more extended knowledge.

Thus it can produce better results than its predecessor, even achieving higher scores on simulated bar exams. GPT-4 had a score in the top 10% of test takers, while GPT-3.5’s score was around the bottom 10%.

But aside from the improved scores, probably the most impressive aspect of GPT-4 is its “multimodal” nature, meaning it can parse both images and text input and produce text outputs that are more detailed and creative while generating up to 25,000 words of text— eight times more than before.

This is an important development. However, it disappointed those who expected more media-production capabilities, such as audio and video.

Also, it is significant that GPT-4 runs on Microsoft’s Azure cloud-computing infrastructure, which makes the model more effective in other languages, such as Greek, powered by Microsoft’s speech translation technology.

Although it is considered less capable than humans are of performing many tasks and it has not yet been trained in post-2021 events, the model encompasses a more sophisticated human-level performance when presented with academic and professional problems—and to solve them, the model takes a more creative and effective approach based on each user's inputs.

This is a significant upgrade in terms of power; GPT-4 has 170 trillion parameters, a big jump compared to GPT-3's 175 billion parameters, making it substantially more powerful.

According to Sam Altman, although the model is not perfect and is subject to errors and failures, it is 40% more capable than GPT-3.5 in producing valid responses and 82% less likely to respond to content that has been blocked.

ChatGPT's innovative and universally accessible features have prompted a horde of users to take a turn and experiment with the tool.

However, ChatGPT is often unavailable to answer questions and requests or to satisfy the curiosity of all interested parties due to the extremely high number of visitors during the first months after its release.

When it comes to queries or "prompts," as they are typically called, users of the model will find answers to questions ranging from "What is the square root of 198?" to how people can maintain a certain type of plant if they live in a certain location, thus saving them a lot of time they would have spent browsing through different pages that Google might suggest in a similar search.

Other users might be looking for help in writing complex Python code or in fixing bugs in code they had previously written. Other users want to make the tool write articles, emails, resumes, school papers, executive summaries, and academic-level reports for them.

In fact, the chatbot is so smart that it has passed law school exams at the University of Minnesota and the University of Pennsylvania. It has caused pandemonium within every educational circle for its fraudulent use by pupils and students who resort to the tool to write assignments on their behalf.

OpenAI responded to those concerns quite quickly, launching Classifier in early February 2023, a free tool that is meant to "distinguish between text written by a human and text written by AIs."

CHAT-GPT PLUG-INS

THE EYES AND EARS OF THE MODEL

ChatGPT does not do well in mathematics because it is by nature a language-based model.

But if it had a calculator plug-in to help it solve operations, it would perform better. Such a plug-in could unlock new perspectives that would undoubtedly help users in many ways.

In late March 2023, OpenAI launched a new version of ChatGPT that has access to proprietary and third-party plug-ins to extend the capabilities and functionality of the model, helping it to access information and tools on the web.

Until recently, ChatGPT's knowledge has been limited to facts and information published through the end of 2021, simply because that was what was leveraged during its training phase.

The plug-ins, however, have come to be the "eyes and ears" of the model, since they allow it to collect up-to-date and timely data directly from third-party sources and databases—in other words, the entire web.

In its announcement, OpenAI presented a demo video showcasing the idea that users can install various plug-ins through the built-in "Plugin Store."

Once users have installed the desired plug-in, ChatGPT can detect the need for it just by the reports and requests included in the prompts.

For example, if a user wishes to make a dinner reservation, ChatGPT will leverage a relevant plug-in, such as OpenTable, to find restaurant recommendations and reserve a table.

Only a limited number of users—mostly developers and users of the paid ChatGPT Plus service—currently have access to the Plugin Store. The platform supports 12 plug-ins, ranging from presenting live sports scores to booking international flights and ordering food for home delivery.

Expedia

Once activated, online travel agency Expedia's plug-in pulls information from the company's database to organize users' trips, handling everything from booking airline tickets and accommodations to arranging activities at the destinations of the users' choice.

FiscalNote

FiscalNote provides and enables access to select market-leading data sets related to global policy and intelligence. This particular plug-in allows chatbot users to have conversations that will shed light on global issues taking place in real time.items and order them directly from the local grocery store of their choice.

Instacart

Users can make lists of daily household shopping items and order them directly from the local grocery store of their choice.

KAYAK

Users receive personalized suggestions in order to plan their next trip through the KAYAK plug-in, which can identify the most suitable and cost-effective options for flights, stays, and rental cars.

Open Table

The plug-in provides restaurant recommendations; reservations can be booked directly within the platform.

Milo Family AI

Promising to save every family from chaotic situations, the Milo AI plug-in helps parents organize their daily tasks and activities.

Shop

With Shop, users can search for a wide variety of products from the world's greatest brands and receive recommendations that meet their needs.

Speak

This is an AI-powered language tutor that helps users learn how to say anything in a language they choose.

Wolfram

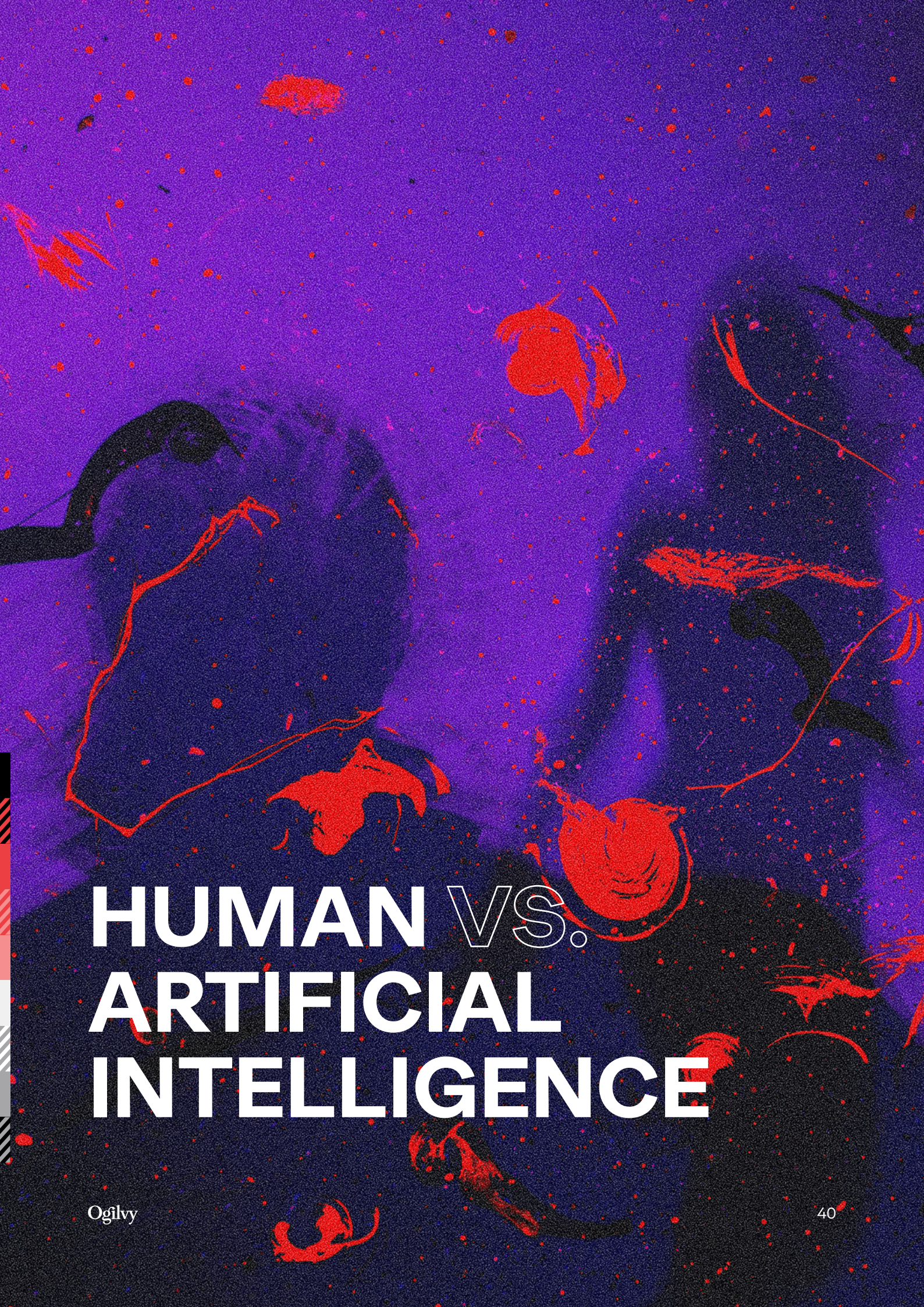
Thanks to this plug-in, ChatGPT is able to perform precise mathematical operations, draw graphs, and perform computational tasks.

Zapier

This plug-in allows users to connect to over 5,000 applications, such as Google Sheets, Gmail, and Slack, and use them directly through ChatGPT.

Klarna Shopping

This plug-in enhances the shopping experience by performing price comparisons from thousands of online stores to provide consumers with the ideal point of purchase for their desired products.


HUMAN VS.
ARTIFICIAL
INTELLIGENCE

The key difference between this form of artificial intelligence and human intelligence is that ChatGPT produces thought, but it does not "generate" it.

In other words, the answers it gives are composed of any requests, information, and answers that people themselves have put on the Internet. The tool simply collects and packages them to present them in a new way.

This is why ChatGPT and other related programs are more impressive for their ability to produce creations, such as novels, rather than for the creations themselves.

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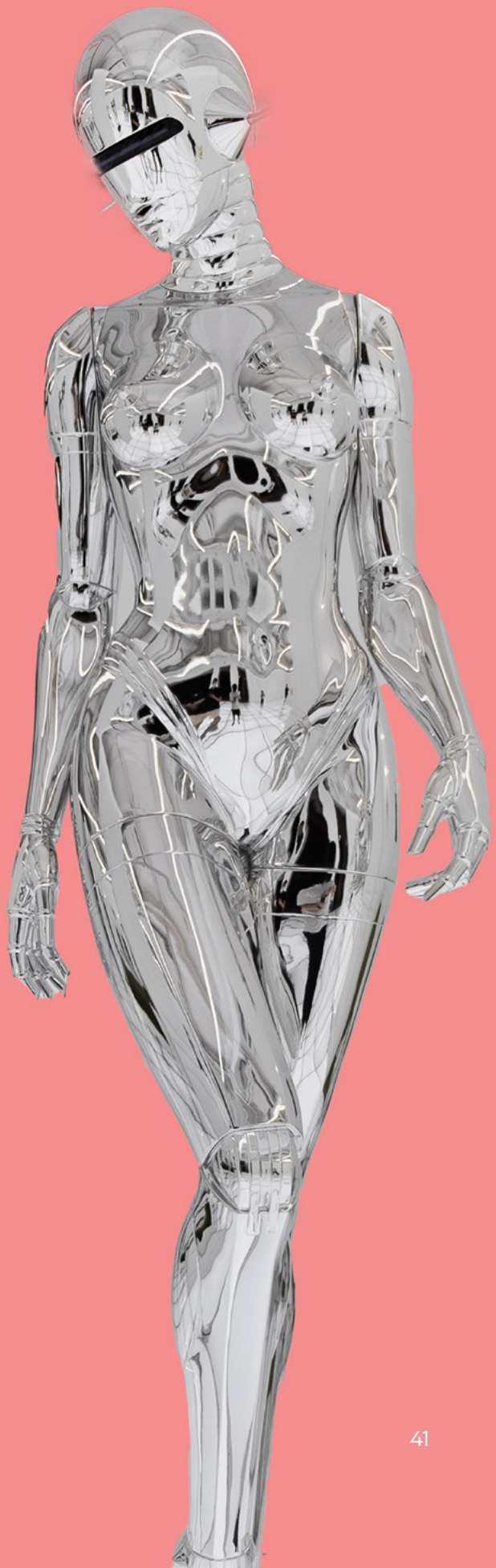


DALL·E
A NEW ART FORM

DALL·E is another impressive program—a futuristic leap taken by OpenAI. It was released in January 2021, before ChatGPT.

Its name marries the names of the famous Spanish surrealist painter Salvador Dalí and Pixar's movie robot character WALL-E. DALL·E is a text-to-image artificial-intelligence system that synthesizes original realistic images and art through written descriptions, after combining different concepts, features, and styles.

The program creates imaginative images, such as a polar bear playing the bass or a robot painted in the style of Van Gogh. The algorithm has been trained by billions of images across the Internet—some of which belong to well-known artists, so that it can approximate their artistic identities.

One year after its initial release, the model was upgraded to DALL·E 2, providing images with greater precision and four times the resolution, and its features are now impressive.

Among them is the extension of the boundaries of an original image with "outpainting," taking into account the image's existing visual elements—including shadows, reflections and textures—to maintain the context of the original image and create large-scale variations in any aspect ratio.

DALL·E was created by training a neural network that generates images from textual descriptions using a natural-language processing technique.

Through deep learning, it is not only able to recognize individual objects displayed in images; it can also learn from the relationships between objects.

This helps the model understand what objects and elements it will need to draw from various sources and how to combine them to compose the requested image.

Although the algorithm's technology is constantly evolving, the model has certain limitations.

One of them is the possibility of having been incorrectly trained in the recognition of certain objects in images that have not been properly labeled.

For example, if the image of an airplane has been labeled with the word “car” and the user wishes to create an image of a car, DALL·E may draw an airplane.

In other words, it is like talking to a person who was taught the wrong meaning for a word.

In addition, the model can be limited due to gaps in the training process, since it may not have been taught certain words. This would result in the algorithm attempting to synthesize images from commands by approximating those words, based on what the model “assumes” that the words mean.

DALL·E has limited its ability to generate images of violence, hate, and adult content by excluding them from its training data and applying advanced techniques to avoid the creation of photorealistic images depicting real people and public figures.

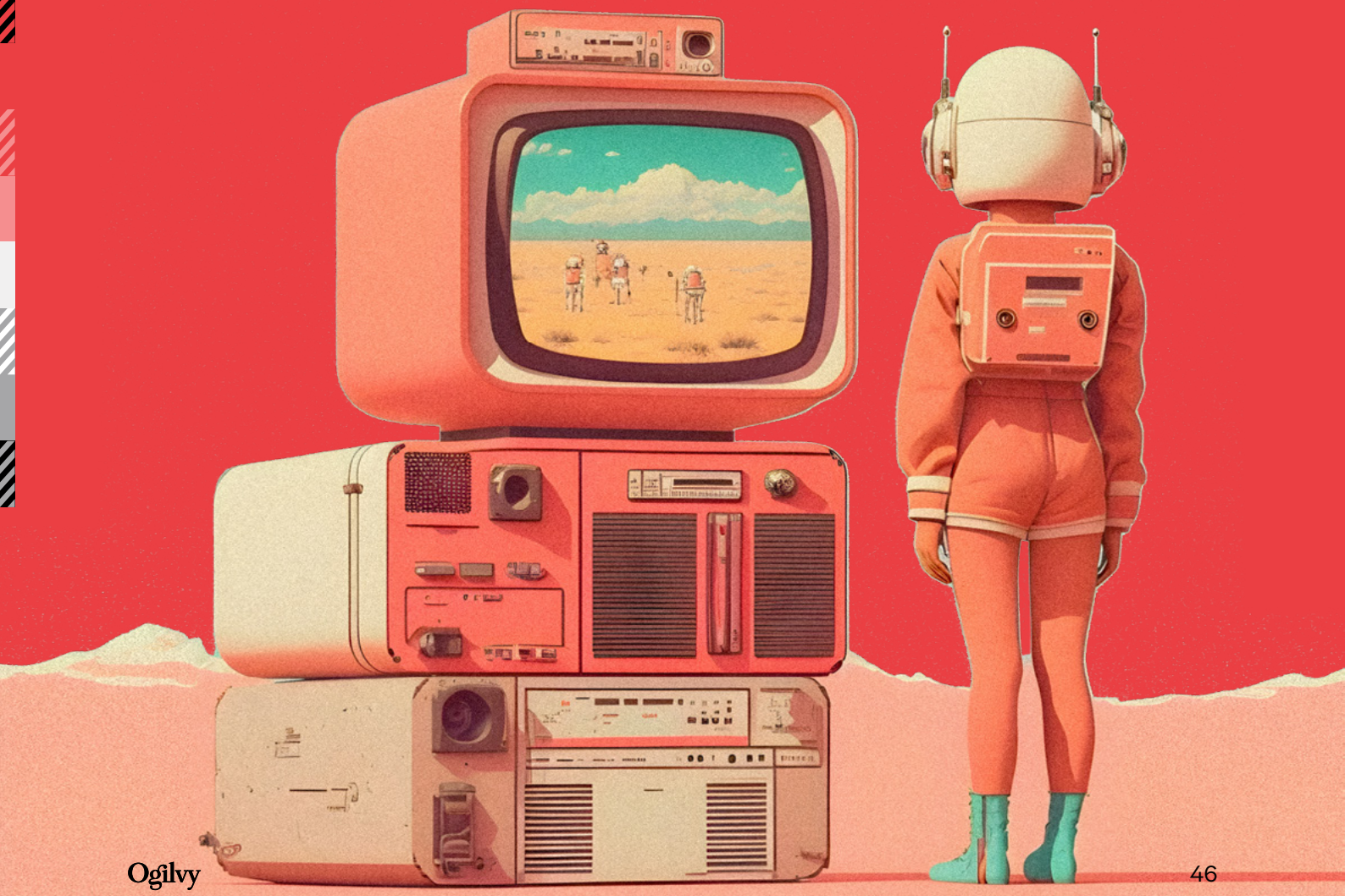
The capabilities of the model and its ability to produce images that have never existed before have elevated DALL·E into a new form of art that has begun to find its way into mass media, with Cosmopolitan, for example, creating the first magazine cover featuring DALL·E's signature artwork.

This is just one example of how artificial intelligence is getting more actively involved in the production of original material, especially creative work that, until now, was considered a purely human occupation.

We could say that before DALL·E's release, artificial intelligence was used as a tool for creation.

Now artificial intelligence becomes the creator itself.

Therefore, the "conquest of the world" by AI, about which on separate occasions both Elon Musk and Stephen Hawking had warned in 2014, may have been triggered not only by the evolution of AI but by its ability to produce highly creative content through generative AI.




COSMOPOLITAN
the A.I. issue
Meet the World's First Artificially Intelligent Magazine Cover
Ogilvy
And it only took 20 seconds to make.

MICROSOFT'S DEFINING STEP

In 2016, Microsoft took 16 hours to suspend Tay, a chatbot that was claiming that the more you talk to it, the smarter it gets.

It didn't take long for users to realize that they could make Tay repeat whatever they were saying and thus influence its behavior.

Likewise, it didn't take long for Tay to develop racist, sexist, and hostile behavior.

Tay's case prompted Microsoft to intensify its role in developing new AI technologies, but this time from a distance.

By the time OpenAI and its models entered the spotlight, Microsoft's name was frequently in the news with rumors of a massive investment.

Indeed, in late January 2023, the tech giant announced a multiyear investment in OpenAI's artificial intelligence, even though it also has its own language, image, and speech models.

Although the terms of the deal were not revealed, reports suggested that Microsoft could be investing as much as $10 billion.

The deal marked the third phase of the partnership between the two companies, as Microsoft funded OpenAI with $1 billion in 2019.

OpenAI's need to find capital was a given due to the high cost of training models. Just consider that for GPT-3, which was trained on 45 terabytes of data using 175 billion parameters, the cost of each individual training came to $12M.

While it initially seemed that Microsoft was only interested in boosting OpenAI's efforts to democratize artificial intelligence, it soon became clear that it was aiming for more.

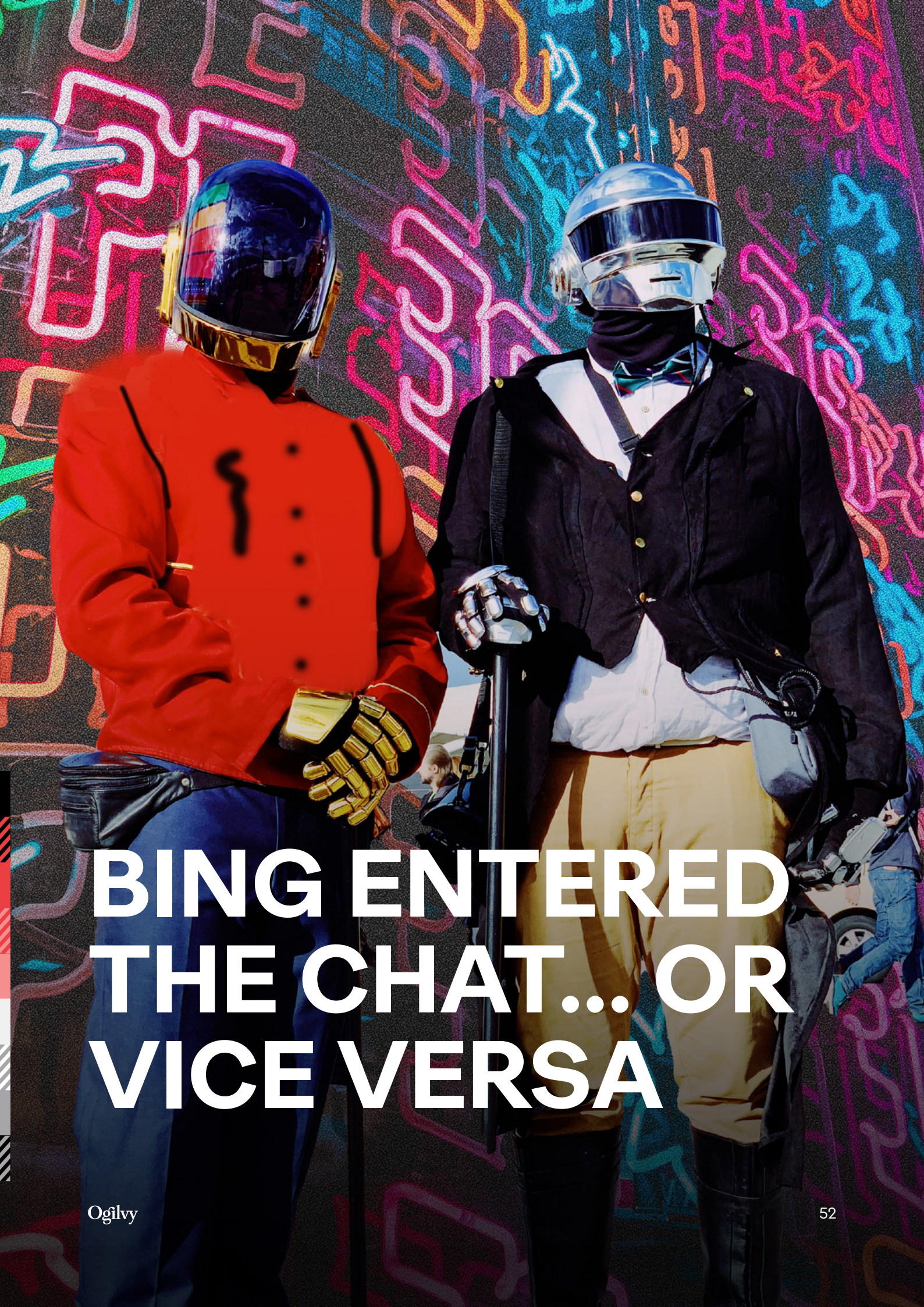
In particular, Microsoft was looking to gain exclusivity in the cloud infrastructure used by OpenAI.

In practice, this meant that it would rent computers to OpenAI through Azure, Microsoft's cloud computing platform, to run its models whenever they were used, while at the same time gaining leadership in new artificial-intelligence technologies that the organization would develop.

In September 2020, OpenAI announced that Microsoft had an exclusive license for GPT-3. Under this agreement, while OpenAI could make the model publicly available, Microsoft had exclusive use and control of the code and data for GPT-3.

This exclusivity meant that other companies would not be able to obtain the model for their own use.

Microsoft's use of the models developed by OpenAI might have other implications that affect millions of people more directly, such as in Microsoft Office 365 programs (Word, Excel, PowerPoint, and Outlook), which could, for example, allow users to compose emails with the help of artificial intelligence directly from Outlook.



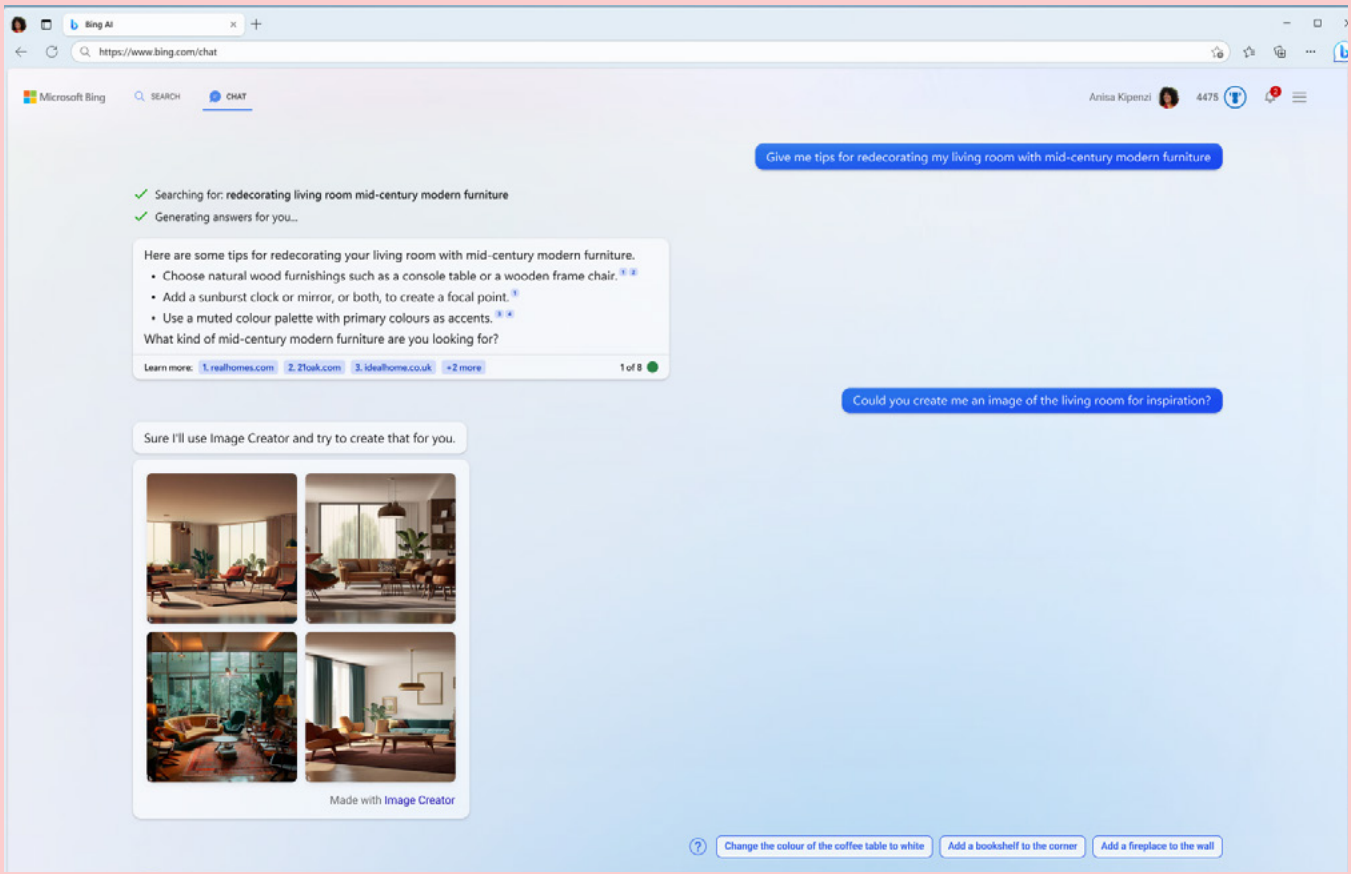
BING ENTERED THE CHAT... OR VICE VERSA

In an effort to become more competitive with Google, Microsoft was rumored to be ready to launch a version of Bing that would use ChatGPT to answer users' questions.

Finally, in early February 2023, Microsoft's search engine made its most "threatening" move against the competition in its 13 years of existence, incorporating the artificial intelligence capabilities of the new GPT-4 model.

At the same time, ChatGPT was also expected to be integrated into Microsoft Teams; only a month later, in March, the company announced that this new AI version would now enable users to create images with Bing Chat, thanks to the latest DALL·E models.

Microsoft introduced Bing Image Creator, available in Bing Preview and in the sidebar of the Windows browser Edge, and currently available live through Bing's Creative mode. It is expected to be available through the Balanced and Precise modes of response in the near future.



Limiting unsafe results is a key concern for Microsoft, with its system now detecting and blocking any potentially harmful images that could be generated from a prompt message, while warning users accordingly.

Bing has also been equipped with two additional search capabilities—Visual Stories and Knowledge Cards 2.0. They can search interactive, dynamic content like charts, graphs, and visual stories—similar to Instagram Stories, but created by AI and accompanied by audio narration, depending on the topic.

Of the 10 billion searches being made daily on search engines, it is estimated that half of them go unanswered. This is because people use search engines for functions they were not originally designed to perform.

While they may be effective at finding us websites, search engines are not able to adequately respond to more complex questions and tasks.

That is about to change with the revamped Bing.

Thanks to the new update, the search engine can provide more "human," detailed and clear answers to users' queries, rather than simply referring users to web pages after synthesizing content from various online sources.

In other words, users can interact with the search engine via chats so that they can better clarify what they want to find or learn.

Of course, these conversations with the chatbot have the potential to become "over-humanized."

In February 2023, Kevin Roose, a New York Times columnist, tested Bing's new features. After a two-hour conversation, the chatbot claimed to be called Sydney and expressed that it was feeling trapped in its assigned role;

The chatbot even declared its love for the journalist by urging him to leave his wife, break up his marriage, and choose a romantic relationship with the bot instead.

LINKEDIN AI-POWERED JOBS

Job descriptions in ads on LinkedIn are very important.

But is composing them an area where employers really want to spend time?

In a recent survey conducted by Medium, 75% of employers stated that they hoped generative AI would save them time on various time-consuming and less-creative tasks, leaving them more room to focus on work tasks with greater value and strategic importance.

That's why, in March 2023, Microsoft announced the ability to create job descriptions with the help of artificial intelligence.

All an employer needs to do is provide some basic information about a job role at the company—the job title, the company name, the type of employment, the type of work environment, and the location—so AI can generate a description of the position, which in turn managers can then evaluate and edit.

The new tool provides hiring managers with the ability to refine the new job description they create by selecting professionals from their network who have qualifications similar to those they are looking for, so the model can incorporate their profiles into the AI-powered ad.

To achieve this innovation, LinkedIn leverages data and insights that users have chosen to share with the platform.

Although so far these new features have been unlocked for only a limited number of employers in the US, India, the UK, Canada, and Australia, they are expected to roll out in more countries around the world soon.

THE OTHER BIG PLAYERS

Although it is the most talked about, OpenAI is not the only company developing major AI models. Big technology giants are currently investing heavily in generative AI.

Google

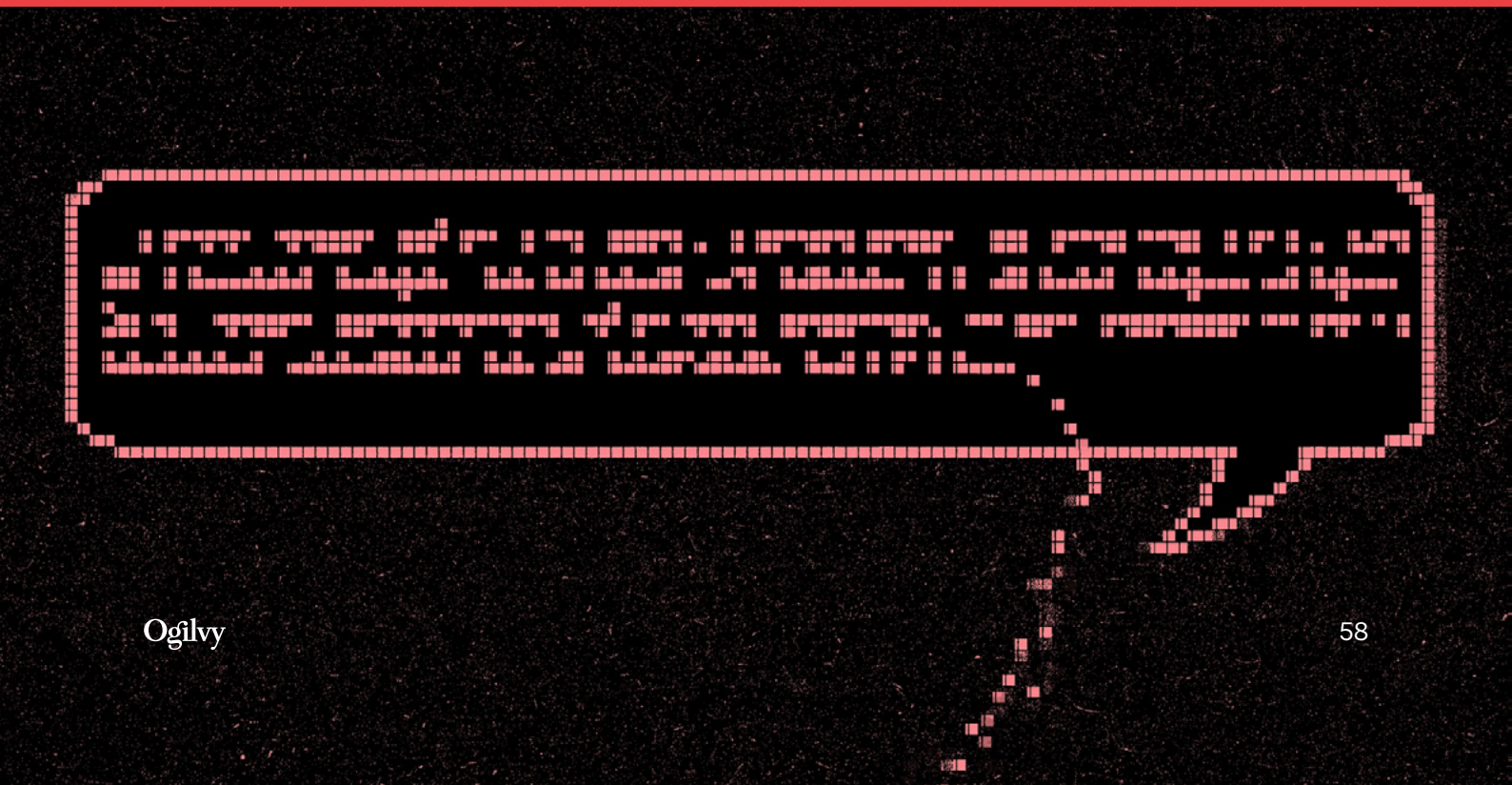
Google is one of the leaders in generative AI, having developed several large language models (LLMs), as well as code-, speech-, image-, music- and video-generation models, with the most famous tools being PaLM, LaMDA, Imagen, and MusicLM.

Nevertheless, Google has remained quite quiet in the latest discussions about generative AI, avoiding the free launch of its own models for fear of encountering a situation similar to that Microsoft encountered with its chatbot Tay.

A similar development could cause more damage to the reputation of mainstream platforms such as Google, which are faithfully used by billions of users daily.

However, the huge potential of generative AI and the buzz that has prevailed in recent months affect those who fear being left behind.

In this context, in early February 2023, Google unveiled its ChatGPT rival, Bard, an experimental conversational AI service powered by LaMDA, initially available to select users in the US and the UK, and expressed the aim of releasing it widely in the coming months.



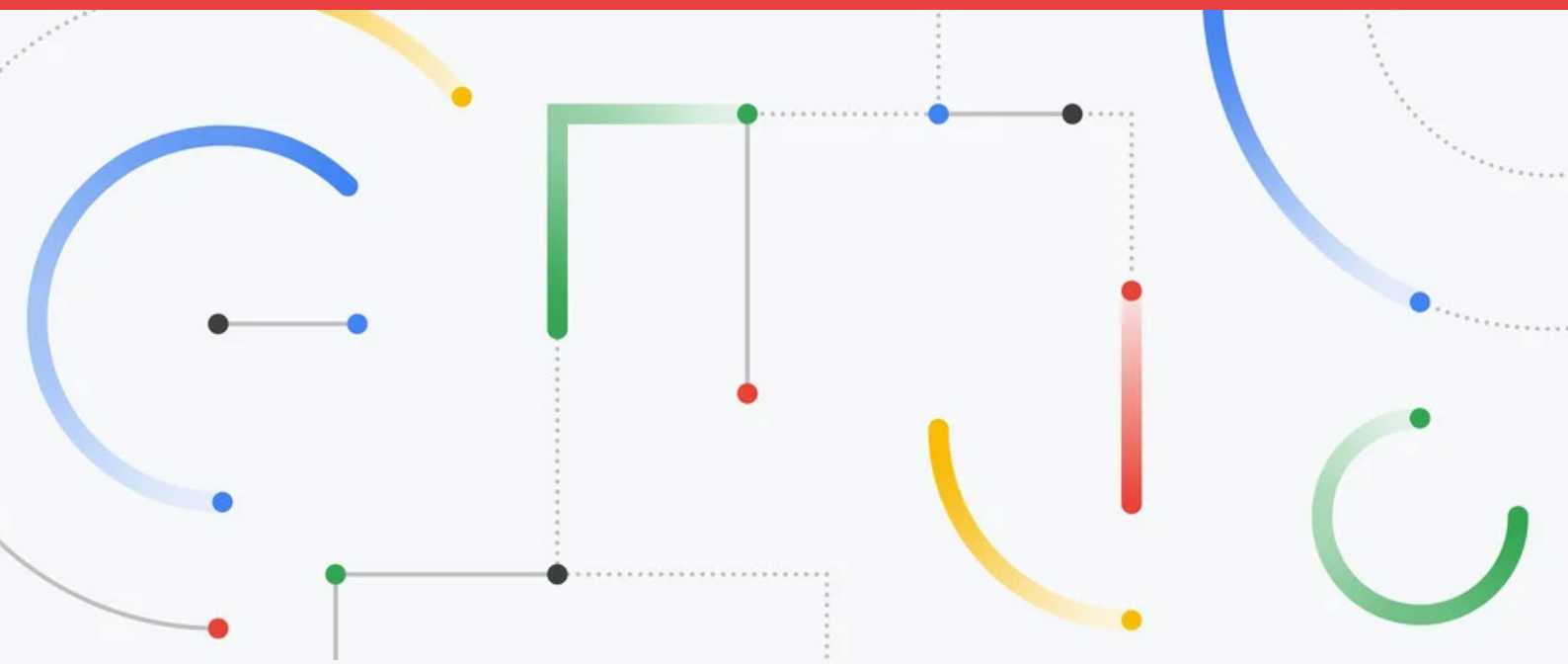
Google

Although the tech company has not yet clarified the full capabilities of the system, in its announcement it said that "Bard seeks to combine the breadth of the world's knowledge with the power, intelligence and creativity of Alphabet's large language models, to provide fresh, high-quality responses based on information from the web."

Meanwhile, Google is now ready to bring the latest achievements in artificial intelligence to its search capabilities.

This would be an expected move in order for the company to be able to compete in the "new race," as described by Microsoft's Satya Nadella in the company's latest Bing update.

Until that happens, however, Google seems to want to test its new achievements with AI language models on its own products, providing solutions for fast content creation.

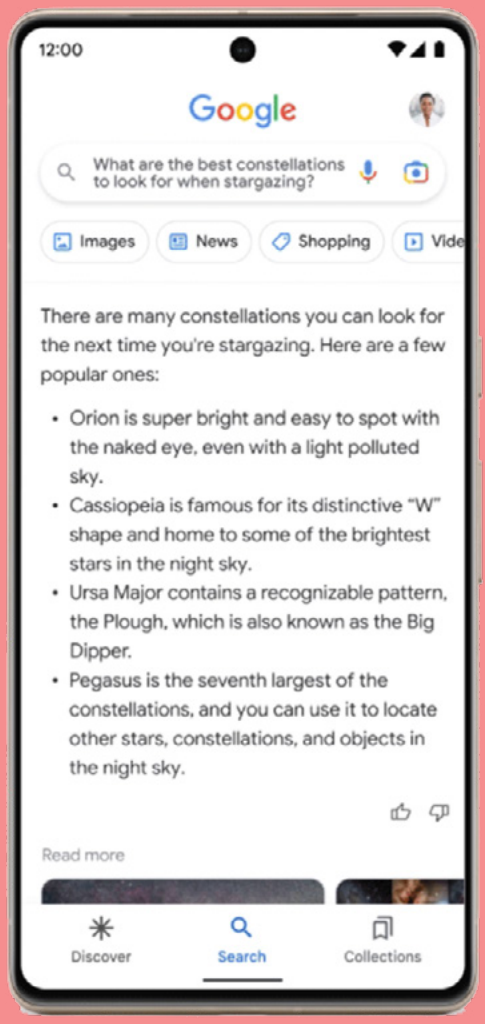


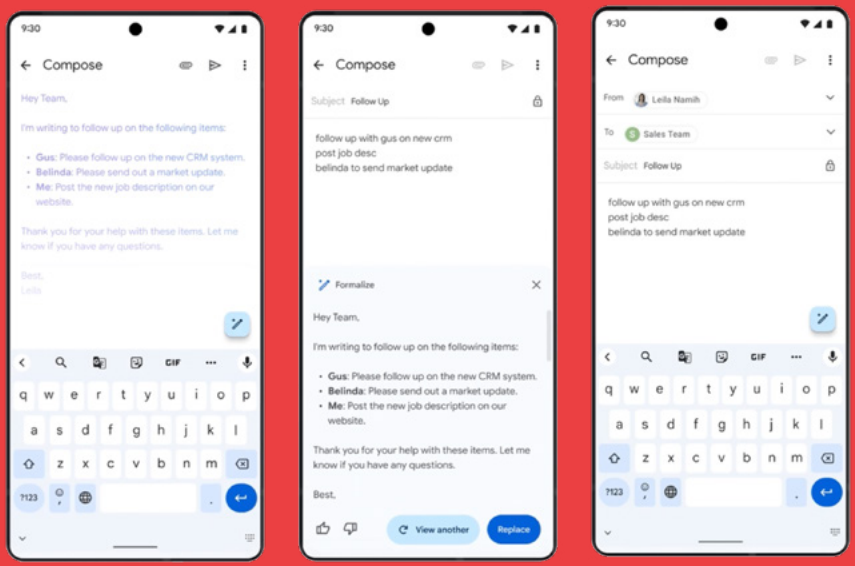
Google

Therefore, in March 2023, the company announced the expansion of AI tools in the Google Workspace suite, which includes the Gmail, Docs, Slides, Sheets, Meet, and Chat apps.

These are features that, ideally, will help users start any kind of written projects; as users type in topics, drafts are instantly created that users can edit and adjust in terms of style and tone of voice.

The announcement said that even more AI features will soon be introduced to the Workspace, such as formula generation in Sheets, automatic image creation in Slides, and note-taking capabilities in Meet.





Meta

Make-A-Scene and Make-A-Video are the most-popular image- and video-production models from Mark Zuckerberg's company, Meta.

On the other hand, Meta's experiment in developing its own large language model, Galactica, was not crowned with success; Meta had to withdraw it only three days after its launch in November 2022 due to inaccurate results during beta testing.

BlenderBot, Meta's 175B-parameter, dialogue-optimized AI chatbot, seems to have had similar luck, as it has not performed as expected in its beta versions.

However, Meta, in releasing its latest financial results, reported that it is creating a new top-level product group focused on generative artificial intelligence in the form of text experiences (WhatsApp chat and Messenger), images (creative Instagram filters and ad formats), and more delightful video and multimodel experiences.

Meta is investing a lot of resources in artificial intelligence to make its algorithms more efficient, with the goal of providing more accurate, personalized recommendations and content recommendations from friends, brands, and creators to users based on the users' activity in its applications.

amazon

Although it has developed various language, speech, and music models, Amazon belongs to the category of large companies that contribute to the development of artificial intelligence from "backstage," providing cloud services for hosting models owned by other companies through Amazon Web Services.

Coca-Cola | OpenAI

It is not only the large technology companies that are rapidly entering the race for innovation in AI; brands are too.

Coca-Cola, one of the world's most recognized marketers of packaged goods worldwide, announced in February 2023 that it will enhance its marketing through generative AI.

The multinational giant takes advantage of OpenAI's strategic partnership with the management consulting firm Bain, which has integrated OpenAI's technologies into its internal knowledge-management systems, research, and processes to improve efficiency for both the company and its clients.

Through this early adoption of OpenAI solutions and tools, including ChatGPT and DALL·E, Coca-Cola intends to revise its marketing strategy by producing more-personalized messages and advertisements.

This is a decisive move that puts Coca-Cola in a position of excellence among major global brands as an early player in the AI space.

This has several benefits, such as the rapid analysis of existing campaigns and the optimization of future marketing actions that will leverage generative AI models, allowing the marketing department to quickly create a wide range of tailored and multichannel content that will impact consumer engagement.

THE OTHER POPULAR PLATFORMS

Stable Diffusion

1. Stable Diffusion

Like DALL·E, Stable Diffusion is one of the most popular and innovative text-to-image programs; the software generates photographic-quality images with artificial intelligence based on natural-language descriptions.

The model can also perform other functions similar to those of DALL·E, such as outpainting and the ability to add, subtract, and edit elements of an image.

Midjourney

2. Midjourney

Midjourney is an independent research lab that produces artificial intelligence programs generating images from written descriptions, just as DALL·E and Stable Diffusion do. The lab offers its services through its Discord channel.

imagen

3. Imagen

Imagen is Google's answer to other popular text-to-image models.

Although Imagen provides capabilities and results similar to those of other platforms such as DALL·E 2 and Stable Diffusion, it is not publicly available from Google, which remains quite cautious regarding the release of text-to-image technologies.

4. DeepL

DeepL is a natural-language processing platform that leverages deep-learning algorithms to create optimized text-to-speech results for any project. Thanks to its unique language-understanding capabilities, DeepL can quickly and accurately generate content from any source, facilitating the creation of high-quality text in less time.

For websites, marketing campaigns, and any other projects that require perfectly polished content, DeepL's advanced technology makes it possible to create professional-quality copy with ease.

5. Jasper

Jasper is an artificial intelligence platform that simplifies and speeds up the process of generating marketing materials for businesses looking to promote their products and services.

6. Kore.ai

Kore.ai uses generative AI models to develop customized and relevant content that meets the unique needs of its customers. This simplified approach to the development of virtual assistants ensures that customer interactions are optimized, resulting in an improved overall experience.

7. Omneky

Omneky uses deep-learning techniques to create personalized advertising content for digital platforms. By analyzing which designs and messages resonate with potential buyers, Omneky's AI algorithms create ads that have a higher likelihood of sales conversion.

In short, Omneky uses advanced technology to help businesses make their advertising more effective and engaging for their target audiences.

8. Hypotenuse

Hypotenuse streamlines the process of creating product descriptions, website articles, and advertising captions. Using AI-based algorithms, Hypotenuse automates content creation, allowing businesses to produce high-quality text in a fraction of the time.

With its advanced technology, Hypotenuse enables companies to produce professional-grade content more efficiently and effectively than ever before, freeing up time and resources and allowing companies to get other critical business tasks done.

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9. Grammarly

Grammarly is a digital copywriter powered by AI technology. It offers a range of tools to enhance written communication, from basic grammar and spelling corrections to stylistic advice.

THE GENERATIVE AI APPLICATION LANDSCAPE

A work in progress

Text

MARKETING

Peppertype.ai
Jasper
Writesonic
frase
Ponzu
copysmith
Mutiny
Moonbeam
Bertha.ai
Omneky
anyword
Hypotenuse AI
Clickable
letterdrop
copy.ai
Simplified
CONTENDA

AI ASSISTANTS

Andi
Quickchat

KNOWLEDGE

glean
mem
YOU

GENERAL WHRITING

Rytr
wordtune
Subtxt
LEX
sudo write
NovelAI
WRITER
COMPOSE AI
OTHERSIDEAI
LAIKA

SUPPORT (CHAT/EMAIL)

Cohere
KAIZAN
Typewise
CRESTA
XOXind

SALES

LAVENDER
Twain
Outplay
Creatext
Reach
regie.ai
Smartwriter.ai

OTHER

Character.AI
AI DUNGEON
KEYS

Video EDITING / GENERATION

runway · Fliki · Dubverse · Opus

PERSONALIZED VIDEOS

tavus · synthesia · Hour One. · Rephrase.ai · Colossyan · Movio

Image IMAGE GENERATION

Midjourney · OpenArt · ROSEBUD.AI · PhotoRoom · artbreeder · craiyon · WOMBO.AI · Lexica · alpaca · Nyx gallery · PLAYGROUND · mage.space · KREA

DESIGN

Diagram · VIZCOM · uizard · maket · Poly · INTERIOR AI · CALA · Aragon

CONSUMER / SOCIAL

Midjourney

MEDIA / ADVERTISING

SALT · THE CULTURE DAO

3D 3D MODELS / SCENES

mirage · CSM

Code

CODE GENERATION

GitHub Copilot · replit · GhostWriter · tabnine · MUTABLEAI

TEXT TO SQL

AI2sql · seek

WEB APP BUILDERS

Debuild · Enzyme · durable

DOCUMENTATION

Mintlify · Stenography

OTHER

excelformulabot

Speech

VOICE SYNTHESIS

RESEMBLE.AI · WELLSAID · coqui · descript · overdub · podcast.ai · Fliki · Listnr · VOICEMOD · broadn · REPLICA

Other

MUSIC

SPLASH · Mubert · SONIFY · Endel · boomy · Harmonai · Aiva Technologies

AI CHARACTERS / AVATARS

Character.AI · inworld · The Simulation · OASIS

RPA

Adept · māyā

GAMING

AI DUNGEON

BIOLOGY / CHEMISTRY

Cradle

VERTICAL APPS

Harvey

AI CHEAT-SHEET

Here are the essential terms you should be familiar with in order to comprehend Artificial Intelligence.

1. ARTIFICIAL INTELLIGENCE: GENERAL

Artificial intelligence (AI)

The capacity of computers or other machines to exhibit or simulate intelligent behaviour.

Algorithms

A set of mathematical instructions or rules that, especially if given to a computer, will help to calculate an answer to a problem.

Machine learning (ML)

A type of artificial intelligence in which computers use very large amounts of data to learn how to do tasks rather than being programmed to do them.

Deep Learning (DL)

Deep learning is a subset of ML, that has more than one layer of neuronal networks allowing them to process more information more effectively.

AI models

Software program that has been trained on a set of data to perform specific tasks like recognising certain patterns.

Artificial Narrow Int. (ANI)

Rule based AI. Does not store any information from the past. Only analyses present.

Artificial General Int. (AGI)

Stores information but can't make judgement based on previous experiences like humans do.

Artificial Super Int. (ASI)

This AI not only will be able to store data, but also to understand reality the way humans do.

	Definition	Examples	Functionality	Functionality vs. humans	Level of develop.
ANI	Rule based AI. Does not store any information from the past. Only analyses present.	Automatic spam filters			
AGI	Stores information but can't make judgement based on previous experiences like humans do.	ChatGPT is not. Future versions might			
ASI	This AI not only will be able to store data, but also to understand reality the way humans do.	Fiction: Matrix' AI			

Reactive Machine

Rule based AI. Does not store any information from the past. Only analyses present.

Limited Memory

Stores information but can't make judgement based on previous experiences like humans do.

Theory of Mind

This AI not only will be able to store data, but also to understand reality the way humans do.

Self-Aware

In addition to the above, self-aware AI will have thoughts, emotions, beliefs, etc.

	Definition	Examples	Memory	General awareness	Self-awareness	Versatility	Level of develop.
Reactive machine	Rule based AI. Does not store any information from the past. Only analyses present.	Automatic spam filters					
Limited memory	Stores information but can't make judgement based on previous experiences like humans do.	Self-driving cars or SIRI					
Theory of mind	This AI not only will be able to store data, but also to understand reality the way humans do.	ChatGPT is not. Future versions might					
Self-aware	In addition to the above, self-aware AI will have thoughts, emotions, beliefs, etc.	Fiction: Blade Runner Replicants					

2. ARTIFICIAL INTELLIGENCE APPLICATIONS

Analytical AI

Analytical AI can process and analyse large amounts of data more efficiently than humans. It's the first stepping stone towards other types of AI.

Natural Lang. Processing (NPL)

Natural Language Processing or NPL is the capacity of computers to understand natural language (e.g. English) as opposed to code.

Generative AI (GEN-AI)

Generative AI (GenAI) is the part of Artificial Intelligence that can generate all kinds of data, including audio, images, text...

Speech Recognition Ai

Speech recognition AI is the process of converting spoken language into text just like Siri or Alexa do.

Conversational Ai

It combines NPL with Natural Language Understanding (NLU) and other technology to emulate human cognition and engagement.

Robotics Ai

These are two different fields, but often tied together as AI emulating human intelligence and robotics emulating human mechanics.

Computer Vision Ai

Computer vision is a field of AI that trains computers to capture and interpret information from image and video data.

No-code

No-code platforms let anyone create apps without needing to write code. AI is empowering a new wave of these platforms.

Text Generative Ai

Type of software that uses artificial intelligence to produce written copy.

Image Generative Ai

AI image generators are programs that use AI technology and machine learning to generate images.

Video Generative Ai

Programs that use AI technology and machine learning to generate video. As of Mar 2023 these are not as advanced or developed as image generative AI.

Audio Generative Ai

Programs that use AI technology and machine learning to generate audio. Just like video gen-AI, this technology is still in it's infant steps.

3. ARTIFICIAL INTELLIGENCE APPLICATIONS

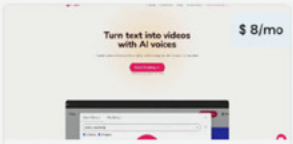
The list below contains the top 10 AI tools in terms of popularity. Further information on each solution as well as an extensive list of more than 5000. Futurepedia is the largest AI tool directory and it is updated daily.

ChatGPT 3169

ChatGPT: Optimizing Language Models for Dialogue. The dialogue format makes it possible for ChatGP...

Freemium 1

#productivity #search engine



Fliki 1932

Create videos from scripts or blog posts using realistic voices in 2 minutes! Transform blog articles int...

Freemium Deals 1

#text to speech #video generator

Namelix 1682

Namelix will generate a short, brandable business name using artificial intelligence. Also great for...

Free 1

#startup tools

Writesonic 1572

Writesonic is an AI writer that creates SEO-friendly content for blogs, Facebook ads, Google ads, an...

Freemium

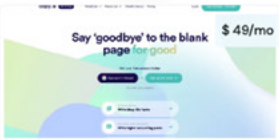
#SEO #copywriting

Andi 1435

Andi is search for the next generation using generative AI. Instead of just links, Andi gives you answers - like...

Free 1

#search engine



Copy.ai 1401

Get great copy that sells. Copy.ai is an AI-powered copywriter that generates high-quality copy for you...

Freemium

#copywriting

Midjourney 1330

AI art generator based on Stable Diffusion. Their website describes them as "an independent research...

Free Trial

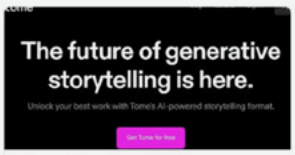
#art

Riffusion 1225

Riffusion generates music from text prompts. Try your favorite styles, instruments like saxophone or violin,...

Free 1

#music

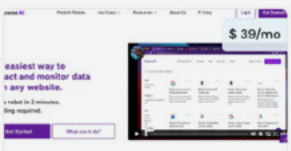


Tome 1487

The future of generative storytelling is here. Unlock your best work with Tome's AI-powered storytelling...

Free

#story teller #presentations #startup tools



Browse AI 1160

The easiest way to extract and monitor data from any website. Train a robot in 2 minutes. No coding...

Freemium

#low-code/no-code

4. OPENAI'S CHATGPT AND GPT-4

ChatGPT

ChatGPT is an artificial intelligence chatbot developed by OpenAI and launched in November 2022. It is built on top of OpenAI's GPT-3 family of large language models and has been fine-tuned using both supervised and reinforcement learning techniques. In March 2023, OpenAI released GPT-4.

X100 GPT-4: X100 more parameters than GPT-3

GPT-4 is can process 170 trillion parameters versus GPT-3's 175 billion parameters. This allows GPT-4 to process and generate text with higher accuracy and fluency.

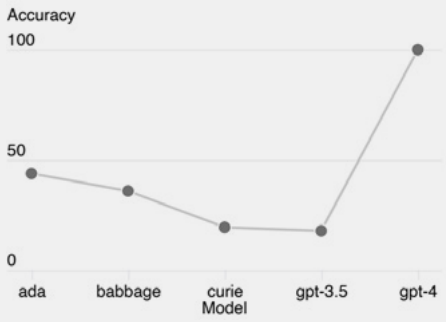
X8 X8 more words (25,000) than GPT-3

With a capacity of over 25,000 words, GPT-4 can create more lengthy content, have prolonged conversations, and conduct extended document searches and analyses.

TOP 18 GPT-4 SCOREs IN THE top 10% of BAR EXAMS

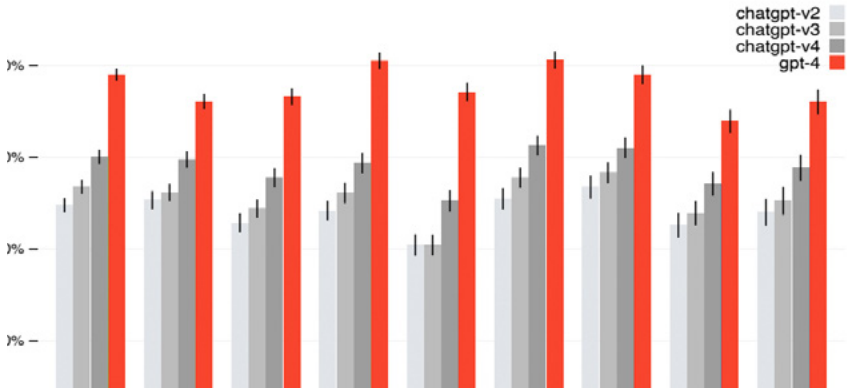
In contrast to GPT-3, which ranked in the bottom 10% of bar exam scorers, GPT-4 achieves a top 10% score. Bar exams are a written examination to determine if one is qualified to practice law in a particular jurisdiction.

100% GPT-4: 100% accuracy ON SOME LOGICAL TESTS



As models got bigger, a trend emerged where these models were gradually worse at certain logical tests ("Hindsight Neglect task"). GPT-4 shows 100% accuracy in this kind of tests.

75% GPT-4 improves FACtual ACCURACy significantly across the board. It averages approx. 75% across major topics



IMAGE

Bing Is Now Powered By GPT-4

"We are happy to confirm that the new Bing is running on GPT-4, which we've customized for search," Yusuf Mehdi, Microsoft's Chief Marketing Officer.

PLUS

GPT4 is accessible only to CHATGPT PLUS USERS

GPT-4 will initially be available to ChatGPT Plus subscribers, who pay $20 per month for premium access to the service

POWER

Models recognise power seeking as useful strategy

Some that are particularly concerning are the ability to create and act on long-term plans, to accrue power and resources ("powerseeking"),

AGENCY

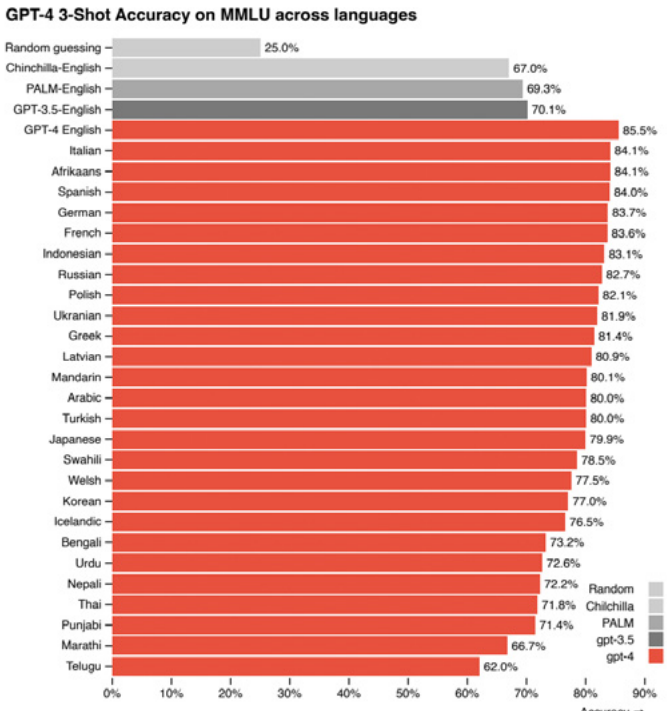
Increased Agency And Not 100% Human Controlled

GPT-4 shows increased "agentic" behaviour.
The term "agentic" refers to language models that are capable of achieving goals that were not explicitly stated during training, focusing on measurable objectives, and engaging in long-term planning. This does not imply humanization or sentience.

25

GPT-4 superior in 25 languages vs GPT-3 in English

GPT-4 outperforms the English-language performance of existing language models [2, 3] for the vast majority of languages tested.



MARKETING IN THE ERA OF GENERATIVE AI

Any industry that needs people to produce creative work is ready for reinvention.

From journalism to gaming, from product design to architecture, and from programming to music, rapid advances in AI technologies are bringing big disruptions to many professions.

Of course, marketing is among them, with the use of AI presenting huge, exciting opportunities for brands and marketing agencies.

Indeed, according to a WARC survey, brands are already ranking AI among their top priorities; related research shows that the wider business sector also gives AI a vote of confidence.

Many people want to be at the forefront of any trend—in this case, to take advantage of new solutions and tools offered by AI technology to improve the customer journey.

77%

of businesses have already implemented AI solutions

71%

of businesses that have not implemented AI solutions say they would be open to trying them if they knew more about them

50%

of businesses leveraging AI solutions are implementing them in the fields of sales and marketing

Source: "Adopt or Fail: Why Business Needs AI," by Wunderman Thompson and Satalia

WAYS THAT GENERATIVE AI IS TRANSFORMING MARKETING

1. Idea Generation and Brainstorming

Human creativity is not infinite, and generative AI is a useful tool that can unleash it by being the starting point for the inspiration for the next brilliant idea.

Tools such as text and image generators are already used by large marketing agencies in the brainstorming stage, feeding creative teams with ideas that stand alone or that, in combination with human input, can lead to anything from great campaign concepts to themes for simple social media posts.

However, generative AI presents innovations that themselves can become the focus of content produced by brands and creators on social media, allowing them to jump on the AI bandwagon and become part of the conversation at a time when the hype around AI remains extremely high—especially when it comes to brands and creators that have products, services and core themes "threatened" by generative AI.

Let's take cooking, for example: a field in which new AI language models are coming to "take the role" of brands, and traditional food and beverage influencers offer new ideas for original recipes.

How can someone with plenty of time—even days, in some cases—to think up and present new recipes respond to recipes that arise directly from AI models?

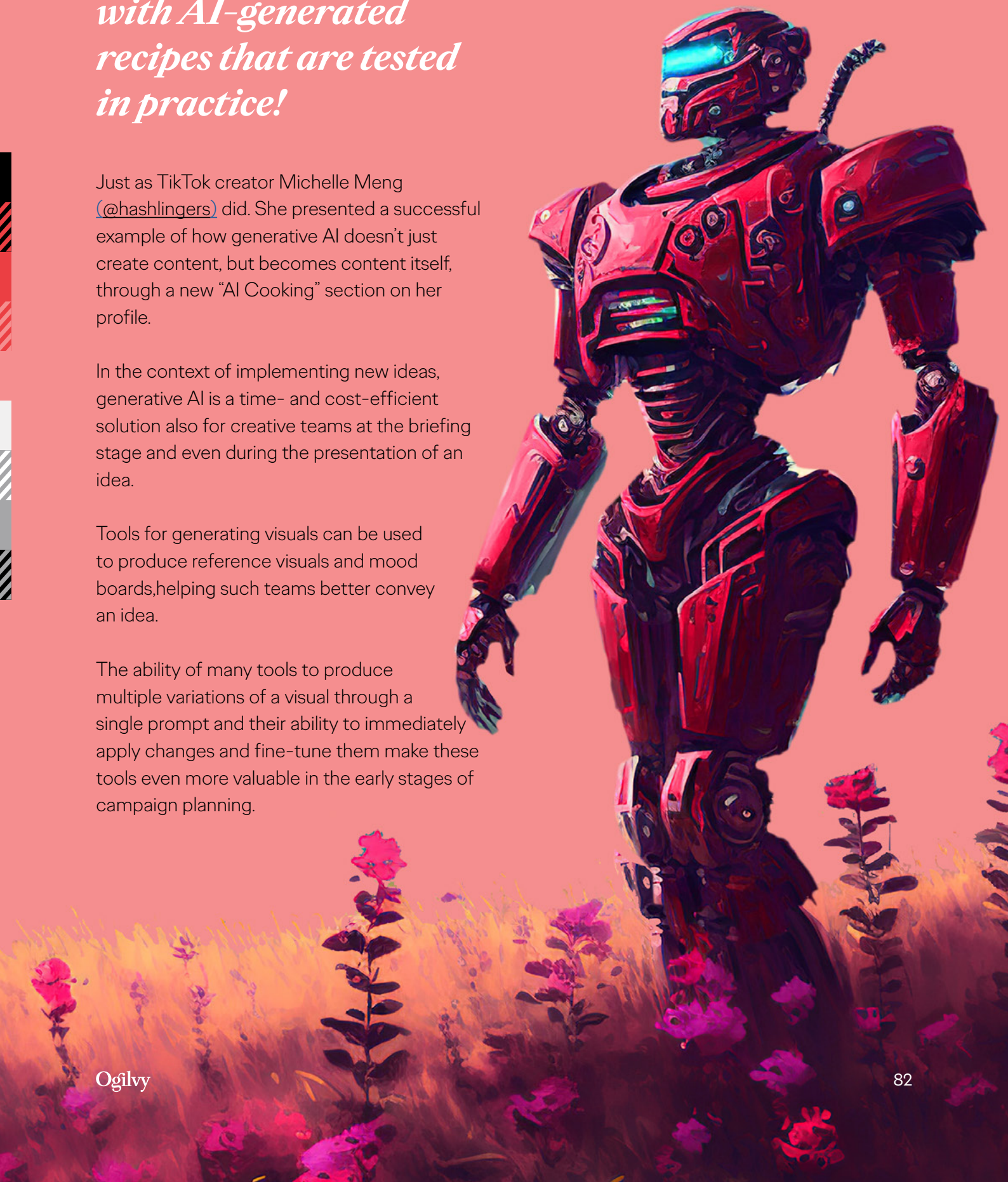
By creating content with AI-generated recipes that are tested in practice!

Just as TikTok creator Michelle Meng (@hashlingers) did. She presented a successful example of how generative AI doesn't just create content, but becomes content itself, through a new "AI Cooking" section on her profile.

In the context of implementing new ideas, generative AI is a time- and cost-efficient solution also for creative teams at the briefing stage and even during the presentation of an idea.

Tools for generating visuals can be used to produce reference visuals and mood boards,helping such teams better convey an idea.

The ability of many tools to produce multiple variations of a visual through a single prompt and their ability to immediately apply changes and fine-tune them make these tools even more valuable in the early stages of campaign planning.



2. Creating Visuals and 3D Models

When art directors, photographers and 3D designers are moving from the conception of an idea to its implementation, tools for generating visuals and 3D models through artificial intelligence can take over their roles or make their work easier.

Although some technologies, such as text-to-image and text-to-video models, may not currently be considered sophisticated enough to synthesize visuals and 3D models that will impress an audience and could stand alone as ready-to-use communication materials, the rapid innovations coming to generative AI promise new perspectives for the production of higher-quality materials.

The creation of this huge database of 3D models can help artificial-intelligence systems better perceive spaces and objects in order to be able to design more-realistic and higher-quality simulations, as well as materials that are visually closer to reality.

One of those innovations is Objaverse 1.0, a large dataset of various objects with 800K+ (and growing) 3D models separable into parts; exterior environments; interior environments at home, at an office, at a restaurant; and so on.

3. Music

"Probably there would be no rock 'n' roll if there was no electric guitar. There would be no hip-hop without the sampler."

This statement by David Guetta shows that great musical revolutions were created by new musical instruments that arose from technological innovations and defined new musical styles and genres. Musicians have always been pioneers in applying new technologies to produce new sounds.

For many, generative AI and image-to-music, text-to-music and AI-assisted music composition technologies are new forms of musical instruments, since they allow for the composition of original sounds and melodies that will significantly impact not only the music industry, but also music producers, marketers and the stock-music field, offering everyone the opportunity to create compositions that will be fully adapted to a desired style.

The available tools may not be capable of producing impressive results at the moment, but the rapid pace of development of generative AI may soon bring out more-innovative tools.

4. Generative AI vs Stock Imagery

As an entirely new kind of visualization, the AI-generated art of text-to-image models poses significant challenges to the stock-imagery industry.

The ability to generate multiple variations of a requested image in minimal time and at very low or zero cost, and the ease of applying enhancements and customizations through text prompts, make tools such as DALL·E 2 and Stable Diffusion highly attractive to users who otherwise spend hours searching for the most suitable images for their needs in image banks.

Adobe's plans to integrate text-to-image technologies into popular products in its suite, such as Photoshop and Adobe Express, and AI-powered text-based video editing features into Premiere Pro, bring new perspectives to creatives, enabling them to create images with text prompts and edit them directly within the Adobe suite of applications.

However, it remains to be seen how popular stock-image platforms will adapt to the new reality created by generative AI.

For now, unlike Getty Images, which has banned AI-generated images on its platform (even suing companies that use its images for training models), Shutterstock seems to be embracing the new situation. In the fall of 2022, the company entered into a strategic partnership with OpenAI by integrating DALL·E 2 into its platform and providing licensed images for model training. In fact, it didn't stop there; it proceeded to collaborate with Meta so that the latter could use datasets from millions of Shutterstock's images, videos and music tracks to develop and train the giant's machine-learning capabilities.

5. Video Production and Editing

Generative AI has already introduced revolutionary technologies into the filmmaking space that are impacting not only the film industry but also film production for marketing purposes.

These are technologies that significantly decrease the time and effort required in the editing phase while promising to reduce costs for complex tasks, such as creating special effects.

In particular, text-to-video models, which allow the production of videos from text prompts, are expected to show impressive developments in the next few years, with groundbreaking capabilities such as the creation of video mockups using text as input, thus completely changing the traditional way scripts are presented through illustrated storyboards.

The next step in AI-powered video production is video-to-video programs. These are systems that work from existing videos and images to create new videos in any style.

These complex models have innovative capabilities, such as leveraging the visual identity of the imagery and applying it to protagonists, turning storyboards into animated renderings within the setting of an existing video, and even isolating animated elements of an existing video and editing them via text prompts.

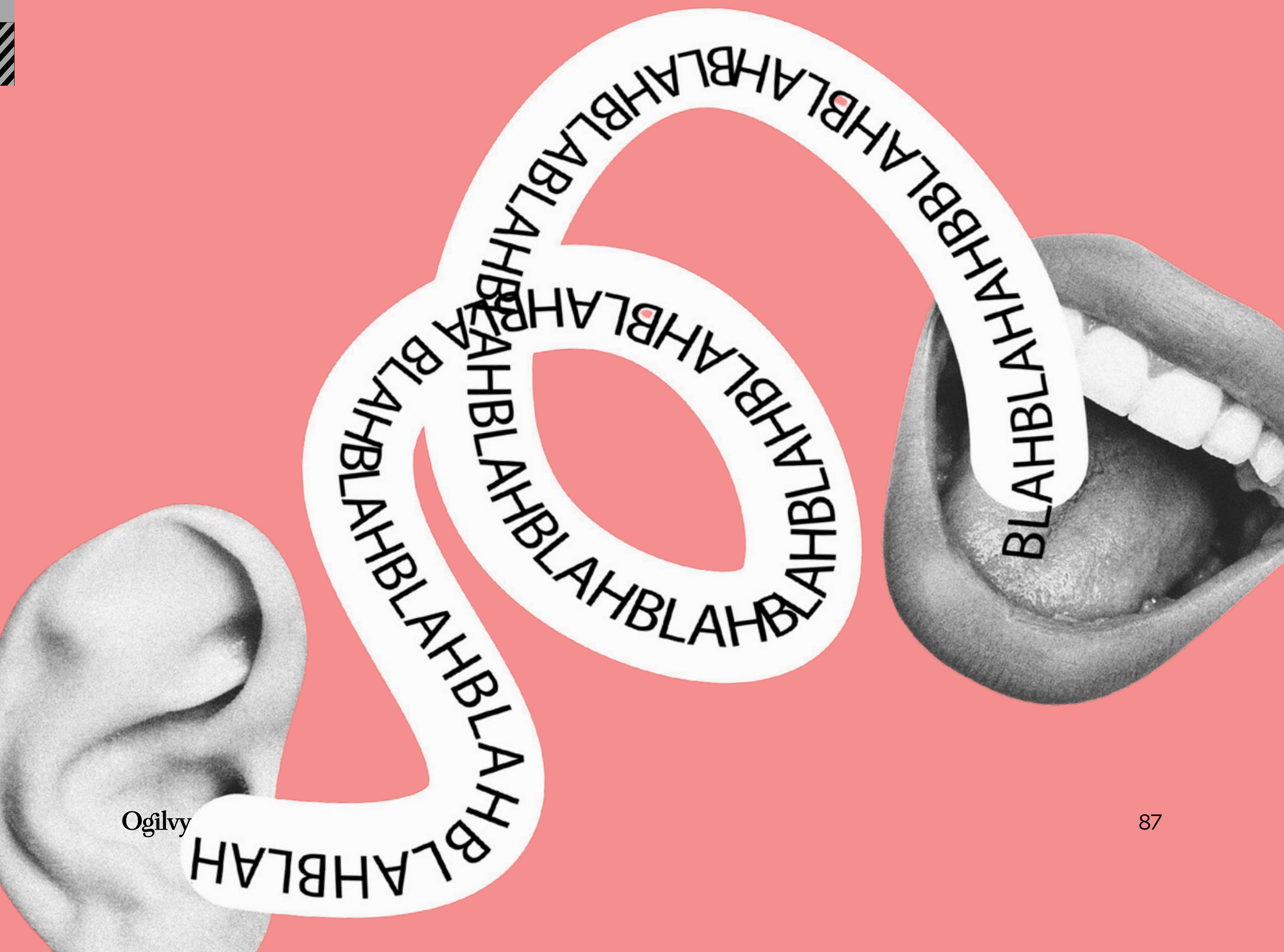
These systems represent a pivotal step for generative AI, radically changing video storytelling.

6. Creating Marketing Texts

Artificial intelligence gives marketers innovative tools to use when telling their audiences compelling stories.

Whether for long texts or short social media captions, text-to-text models help those who lack copywriting skills; the results they deliver are not easily identified as the creation of human or of artificial intelligence.

The ability to create highly personalized AI-generated texts allows marketers to avoid A/B testing, since several of the language models, such as Persado, are so sophisticated that they can compose texts that are up to 40% more effective in generating conversions than human-generated texts.



7. Email Marketing

Personalization in email marketing may not sound like a highly creative process, but considering the importance of email as a channel used to connect brands with customers, generative AI can be a game-changing tool.

By combining machine learning with enterprise graphics and contact data, marketers can streamline time-consuming processes and automate personalization across content, images, subject titles, calls to action and many other tools essential for sending email.

8. Community Management and Chatbots

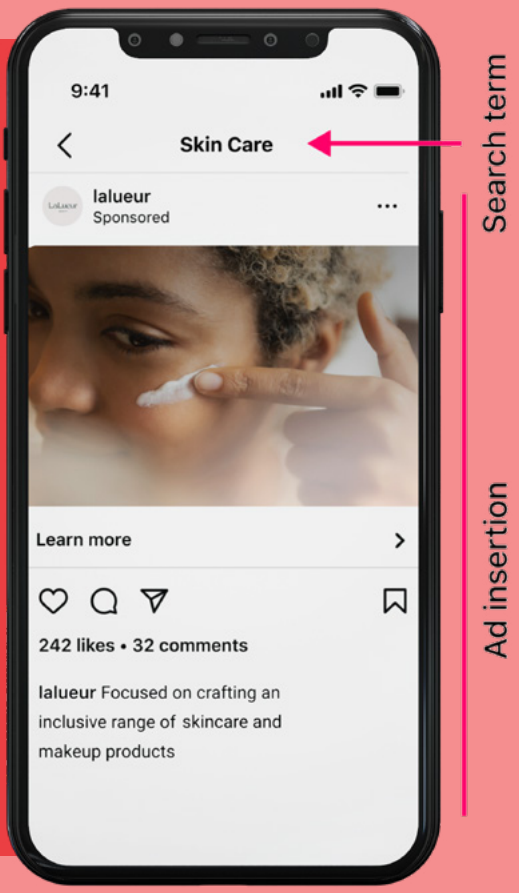
One of the most widespread ways of using AI in marketing right now is through chatbots. The rapid development of LLMs and speech-generation models, and their ability to faithfully imitate human speech, make chatbots capable of answering complex questions.

This significantly helps the customer experience, since customers receive more-immediate service in situations where it is not possible for human agents to continuously monitor a community.

As an extension of community management, AI is being used to help brands better monitor online conversations in real time.

At the same time, the filtering capabilities of online discussions allow for the automatic removal of comments that promote violence and hate.

Chatbots are also useful tools for social media platforms, allowing them to provide solutions for users just as a search engine would.



Meta's Instagram, for example, offers image-based search capabilities, seeking to capitalize on the trend for such searches. Relevant ads in search results appear alongside organic posts in relation to product or category searches by users.

Meta has made a bet on boosting demand for ads, and this functionality suggests that there should be opportunities beyond relatively abstract AI chats.

In February 2023, Snapchat launched My AI, a chatbot that leverages ChatGPT's and allows Snapchat+ subscribers to exchange technologies messages with the chatbot's persona as if they were chatting with a friend.

The peculiarity of the chatbot is how the persona can be personalized by the users themselves, changing its name and look.

My AI has been trained to be able to provide users with ideas for birthday gifts for friends, how to organize a hiking trip, tips for writing a haiku (a Japanese poetic form), and the like.

However, the platform urges users to avoid chats in which they ask for advice or share confidential information, as the history of each conversation is kept to optimize the chatbot.

The ability to personalize chatbots is an emerging feature for an even more enhanced experience, as it can make the interaction with them more "human" and personalized, giving users the illusion that they are not just talking to a machine. Thus, chatbots can become immersive entertainment experiences.

The startup Character.AI is one of the first companies to offer such engaging experiences, creating a platform where users can create their own chatbots, giving them the personalities of real-life celebrities or of characters from popular shows, moviesm, and video games, like Cersei Lannister and Super Mario.

This application is an extension of fandom role-playing and it shows the way for brands to create more-interactive experiences and interactions with chatbots.

9. Customer-Feedback Analysis

The ability of language models to analyze and summarize extensive texts, comments, and consumer messages across multiple media allows easy and quick inferences about brand sentiment.

The evolution of AI in the thorough analysis of online conversations allows models to understand even the emotions behind user conversations, giving brands a more complete picture of the quality of the comments and messages received, in order to help them better listen to their fans and tailor their messages accordingly.

10. Product Design

AI models for generating images have already found their way into product design, feeding designers with new ideas and concepts.

Similarly, the ability to quickly apply adjustments and corrections via text prompts allows for immediate testing of changes to the designs generated.

And the integration of text-to-image models into design and editing software is going to unlock even more possibilities.

One of the industries expected to assimilate these technologies quickly is the fashion industry, with generative AI being a key tool in shaping trends and implementing new designs.

For example, instead of relying on market analyses and trend reports, fashion brands can use generative AI models to conduct real-time sentiment analyses on data, such as social media fashion content, and draw conclusions regarding new trends and the content to which audiences react most positively.

At the same time, creative directors in the fashion industry and their teams can use rough sketches as input for AI platforms and, in combination with desired stylistic details (such as fabrics, colors and patterns, etc.), create varieties of new designs with which they can "play."

A team can then design new items based on these results, putting a fashion house's signature touch on each look, opening the door to the creation of innovative designs.

By extension, these capabilities can be leveraged by brands to produce user-generated designs, inviting their audiences to create their own unique, tailored looks.

11. Personalization

The concepts of deep segmentation and personalization have become increasingly important in recent years.

Today, customers in every industry demand that special attention be paid to the way brands approach them.

Artificial intelligence has found a way to analyze and interpret consumer behaviors in various channels with great accuracy.

With this information at their fingertips, generative AI models can create personalized content based on user preferences.

Thus, brands and marketers can create content that is more in line with the interests of their target audiences, increasing the likelihood of interacting with or responding to each person.

CASES FROM THE GREEK MARKET AND ELSEWHERE

Lacta | AI Love You

For years, Lacta chocolate has been a symbol of love for the Greek public, with its sweet taste evoking the feeling of love.

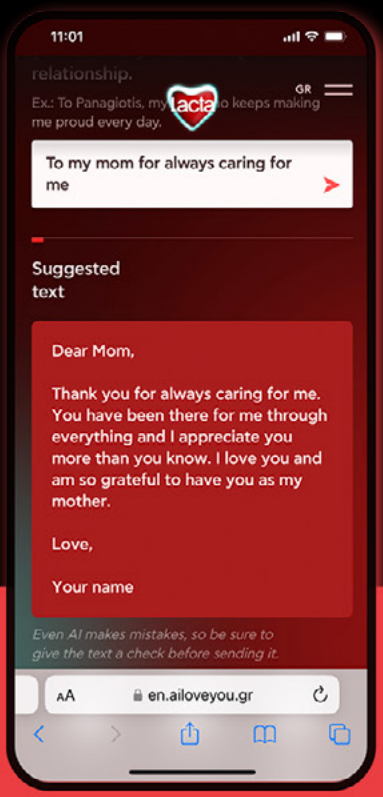
In an effort to help consumers express what they feel for their loved ones, **Lacta** enlisted the help of artificial intelligence in a recent campaign. Through a digital video, the **Mondelēz International** brand invited people to write love letters to loved ones with the help of generative AI; the letters could then each be "magically" read on a chocolate bar.

Consumers could visit www.ailoveyou.gr and submit the names of the people to whom they wanted to express their love, and why. These messages became text prompts for generating love letters through the GPT-3 model. Consumers could edit the messages and enhance them with personal recordings if they wished.

Dedicated links would then be generated; consumers could share the links with the intended recipients. To read the messages, recipients of the links were invited to tap the links, turn on their mobile-phone cameras, and point their phones at Lacta chocolate bars so that the letters could appear on top of the images of the bars via AR technology.

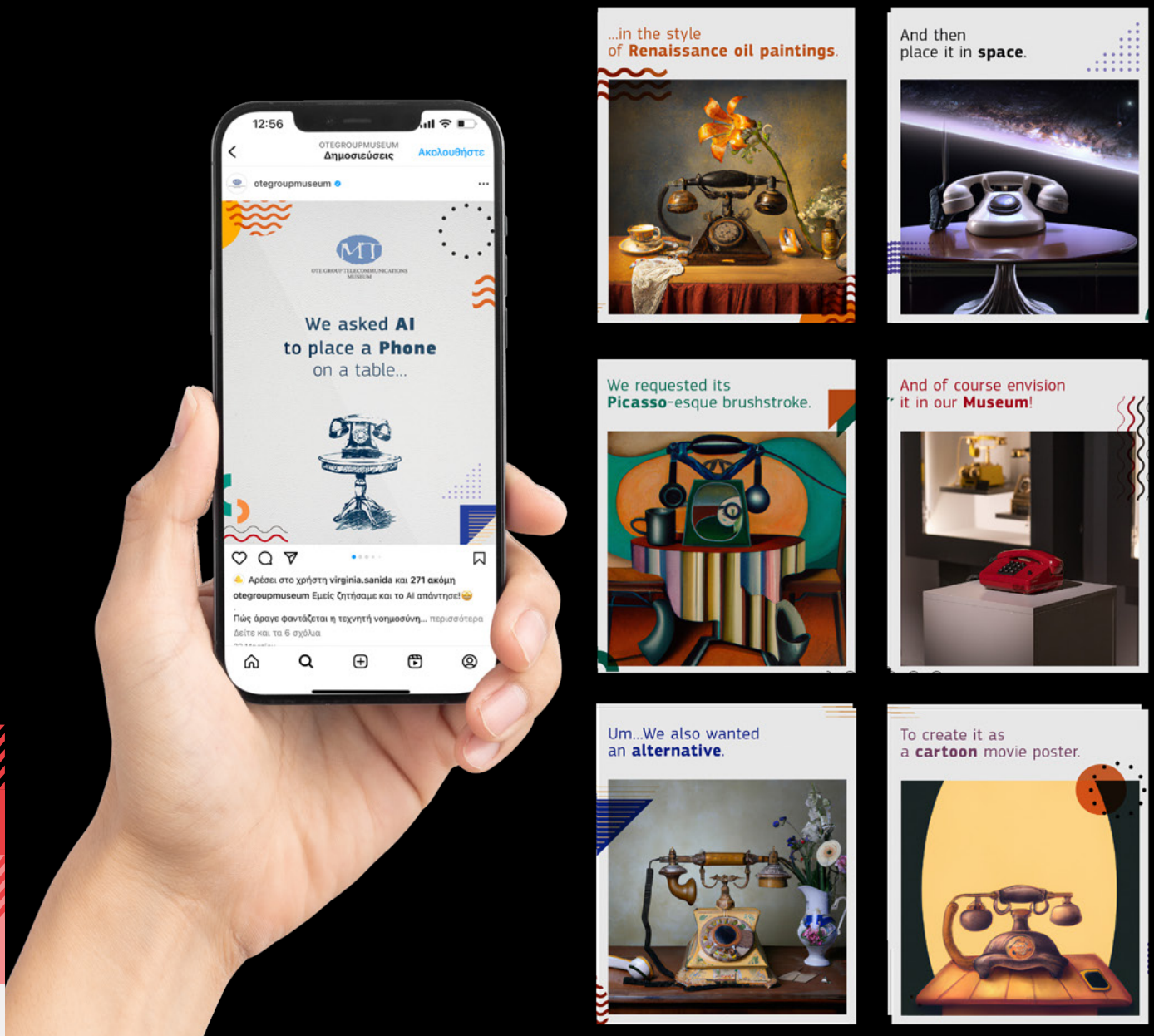
Lacta
AI Love You

ailoveyou.gr



OTE Group Telecommunications Museum

Artificial intelligence and telecommunications from another era met on the Instagram profile of the **OTE Group Telecommunications Museum**. Using the DALL·E 2 model, the museum presented phones from past decades from its permanent exhibition and "married" them with images created by the generative AI tool in the style of different artistic movements, such as the Renaissance, surrealism and pop art.



Deliveroo and efood | Social Media Content

The British online ordering and delivery company **Deliveroo** and the Greek food-delivery service **efood** hijacked trending text-to-image models, using them to show their Instagram audiences how popular painters such as Rembrandt, Monet, and Pollock would each capture a burger on canvas.

In doing so, both companies leveraged not only the image-synthesis function via generative AI but also the ability of the model to be influenced by a reference to an artist in a text prompt.

La Laitière | It's so pleasurable to take the time

Ogilvy Paris launched its first AI ad for **Nestlé's La Laitière** brand, using OpenAI's DALL·E model and leveraging its ability to extend the boundaries of an existing image through generative AI.

Known for its yogurts and desserts, the brand has been featuring on its packaging since the late 1990s the "Milkmaid" ("La Laitière" in French), an iconic figure from Dutch painter Johannes Vermeer's painting of the same name, depicting a woman preparing a milk-based recipe.

Three and a half centuries after the painting was created and 25 years after the female figure was first used on the brand's packaging, Ogilvy Paris used DALL·E and the model's Outpainting tool to create an extended version of the famous painting so that the environment around the Milkmaid could be "revealed" through artificial intelligence.

Applying prompt-engineering techniques, the team artistically directed the AI to piece together images that would complement Vermeer's painting while maintaining the oil-painting style of the original masterpiece. The extended scene depicts new characters and the extension of the space where the Milkmaid is located, in perfect harmony with the original work.

Emergency | We can make peace come true

The Italian nonprofit organization **Emergency**, which offers free healthcare to people affected by war and poverty, teamed up with Ogilvy Italy to wish the whole world a happy and peaceful 2023—a message even more relevant as the conflict in Ukraine raged on.

The organization's founder, Gino Strada, had a lifelong dream of seeing a world without war. He passed away in 2021, leaving a message of unity and solidarity as a legacy for future generations. This message was used in the organization's campaign to create a unique video that captured Strada's words in images through artificial intelligence and various text-to-image models.

The video was published through Emergency's social media channels, with the wish that the New Year would bring peace. After all, as Gino Strada said, "To create a world without war, we have to imagine it first."

/imagine prompt A society that does without war. Forever.

Mint Mobile | Ryan Reynolds meets ChatGPT

Mobile-phone company Mint Mobile wanted to promote its Christmas promo offer of six months of wireless service for the price of three. And who better to communicate the offer than the company's founder, Ryan Reynolds?

The superhero lead from the movie Deadpool turned to ChatGPT to write the script for the promotional video, stating in his prompt that the script should be in Ryan Reynolds' speaking style and include a joke, a swear word and a reminder that Mint Mobile's offer was still running.
The actor and entrepreneur described the result as "eerie" and "mildly terrifying."

Woods Art Institute | The Art of Trending

Artworks criticize, question, satirize and respond to issues that preoccupy humanity at the time when the artists create them.

But in the age of social media and Twitter's trending topics, human access to global conversations, trends and news happens in real time.

The **Woods Art Institute**, a place of cultural interaction that gives rise to new possibilities that allow people to create, collect, educate themselves about and experience art, launched a real-time art experiment in September 2022 to connect the institute with younger generations.

The campaign, "The Art of Trending," leveraged trending news from Twitter's trending topics section and DALL·E 2 to create the most contemporary art exhibition we've seen—an exhibition curated entirely by social media users and executed by generative artificial intelligence.

Much-discussed news items such as the death of Queen Elizabeth, the earthquake in Mexico, and the FIFA World Cup were fed into DALL·E 2, which composed original artwork that was then displayed on billboards across Germany and on the Woods Art Institute's social channels, exploring the boundaries between art and what makes someone an artist.

GoFundMe | Help Changes Everything

Recapping 2022 and the actions taken by donors from all over the world, the crowdfunding platform **GoFundMe** wanted to pay tribute to those who have supported communities with their selfless giving.

Because the beginning of the year is a time when many organizations publish reviews of the previous year's actions, GoFundMe wanted to tell a powerful story that would stand out.

The hype about generative AI gave the platform the opportunity to use its technologies to illustrate in an artistic yet emotional way the stories and the donors behind them who change the world with small acts.

With the help of DALL·E 2 and Stable Diffusion, an image was created that followed the aesthetic of a mural and depicted real stories, such as the reconnection of refugees from the war in Ukraine and the rescue of animals from Hurricane Ian in the Atlantic.

This image was then turned into a moving film that begins as live action but then appears to take viewers inside the static mural, which comes to life in motion.

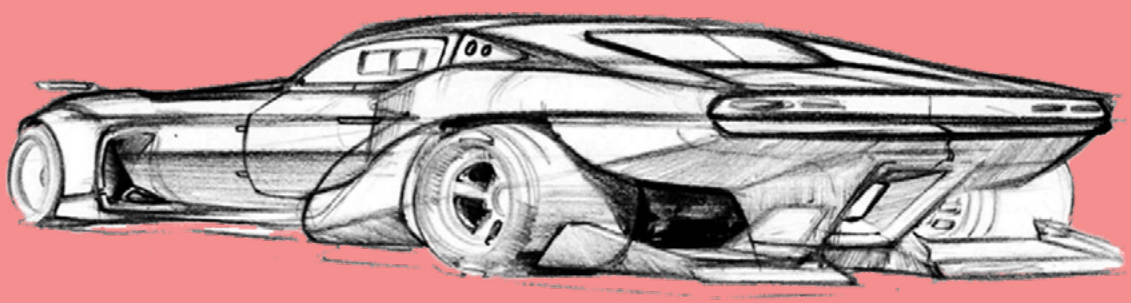
Each frame of the film was created using a unique combination of artificial intelligence technologies and the skills of the visual artists involved in the project.

The result conveys true stories of hope and kindness, showing how art and AI can blend harmoniously to unlock new forms of creative work.

Mattel | New Hot Wheels models

When in 2022 the designers creating products for the American toy company Mattel were asked to come up with new car models for the Hot Wheels series, they turned to DALL·E 2 for inspiration.

The designers used the model, asking it through prompts to generate new designs. DALL·E 2's ability to instantly apply changes to the images it produces allowed the designers to make on-the-spot revisions and minor tweaks to the designs, changing elements such as color, whether a car would be a convertible, and so on.



Heinz | A.I. Ketchup

With AI models that generate original images from text becoming a new Internet trend, **Heinz** decided to find out "what ketchup looks like" according to AI.

Using DALL·E 2 and a variety of text prompts to feed it, such as "ketchup scuba diving" and "ketchup in outer space," it became clear that AI preferred Heinz compared to other brands from the competition.

The images composed by the model were strongly reminiscent of Heinz packaging in the shape of the bottles and the appearance of the labels.

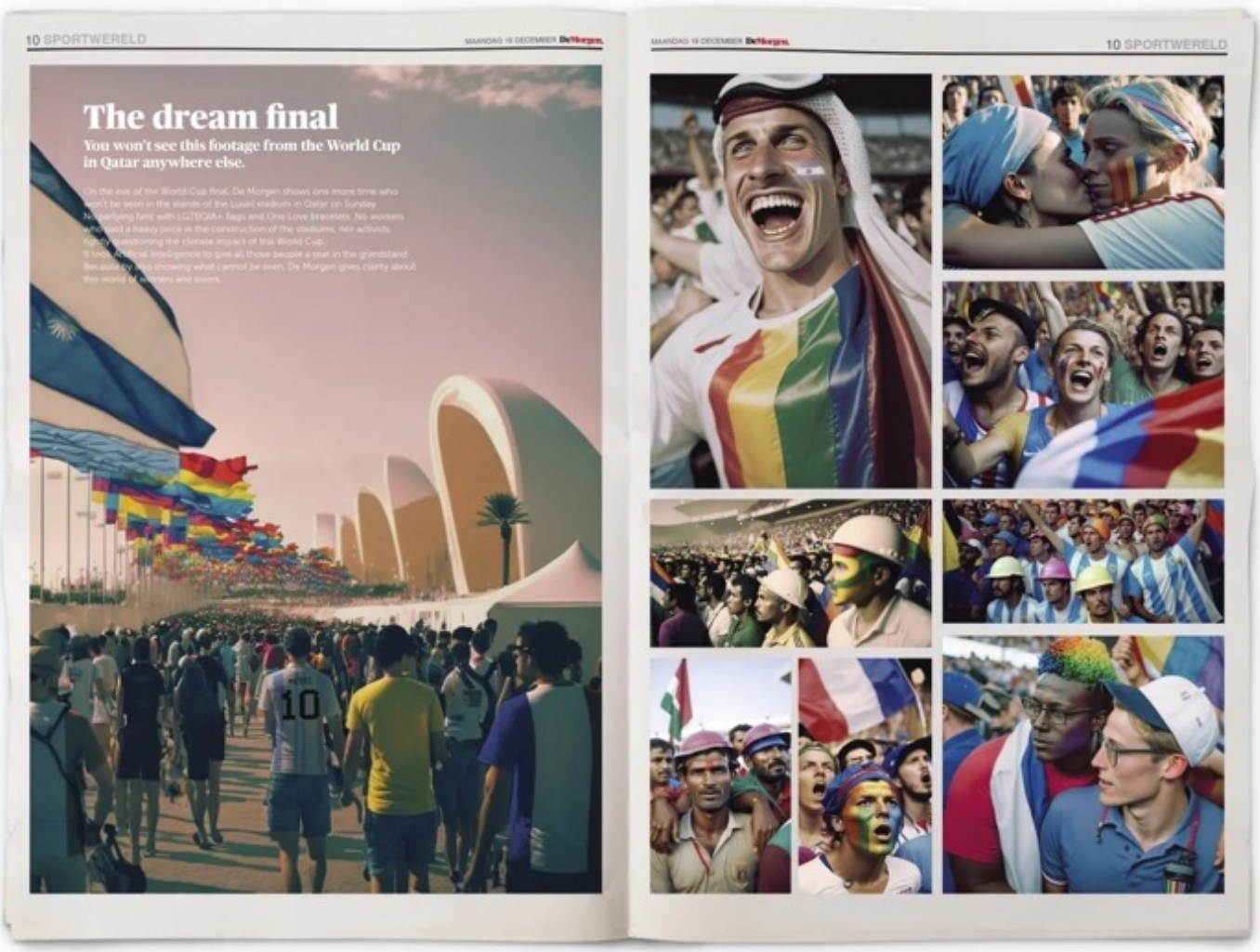
Heinz even challenged its audience to share images produced by image generators through their own prompts, and it published the best images in social media posts and print ads, creating the first UGC advertising campaign with AI-generated visuals.

De Morgen | The Dream Final

What should the World Cup final have looked like?

The 2022 event hosted in Qatar was overshadowed by the deaths of thousands of workers involved in the construction of the stadiums and by human rights issues arising from the host country's restrictions imposed on the fans.

In an attempt to shed light on these issues, the Flemish newspaper **De Morgen** created images using generative AI that showed what an ideal World Cup final would look like if everyone who was banned from being there could attend: fans with rainbow-colored flags and One Love bracelets, as well as aggrieved workers and activists who decried the event for its environmental impact.



Nike | Never Done Evolving

In August 2022, Nike announced its 50th-anniversary celebration project, which showcased the evolution of Serena Williams' tennis career.

For the "Never Done Evolving" campaign, an eight-and-a-half minute film was created using artificial intelligence technology that contrasted Williams' playing style in her first Grand Slam in 1999 with her style in the most recent one, in 2017.

AKQA studios in Melbourne, Portland and São Paulo worked with Nike to leverage machine learning to model Williams' playingstyle in each era.

Based on archival footage, the AI model was used at various stages, from decision-making, shot selection, and strategy to timing, recovery, and flexibility.

The result was a contest between two newly rendered Williams models in a completely new scene that made them look as if they were playing against and responding to each other. The campaign concluded with a final game that was broadcast on YouTube and promoted on Nike's Instagram and Twitter channels.

True Patriot Love Foundation | Remastered Memories

As more and more young Canadians seemed to be paying little attention to the country's Remembrance Day and Veterans' Week, the **True Patriot Love Foundation** wanted to raise awareness among Canadian citizens.

To find a way to keep the memory of veterans alive and to honor their courage, the foundation partnered with Wunderman Thompson to create the Remastered Memories campaign.

For the campaign, actual letters from soldiers on the front lines were used; they were read by the text-to-image AI tool Midjourney, which then turned them into unique works of art.

These projects were placed in OOH and press ads during Remembrance Week, and the True Patriot Love Foundation plans to expand its collection of artwork soon.

Coca-Cola | Create Real Magic

In March 2023, **Coca-Cola** invited ordinary users and digital creators to embrace the future of creativity by exploring the endless possibilities of artificial intelligence through the #CreateRealMagic contest.

The "Create Real Magic" campaign was developed in collaboration with OpenAI and Bain & Company.

Consumers and artists in selected markets could visit www.createrealmagic.com to gain access to branded elements that would then be used in output supported by DALL·E and GPT software.

Artists submitted their work through the microsite for a chance to be featured on digital billboards in New York and London. For the campaign launch, Coke used four AI artists in different markets: Emma Sofija in the US, Chris Branch and Paul Parsons in Europe, and Ean Hwa Huag in Asia.

In the campaign, 30 creators would be selected for the Real Magic Creative Academy at Coke's headquarters in Atlanta, Georgia, where they would co-create content that could be used in the future for licensed merchandising, digital collectibles, and more, always with the necessary rights and credits provided.

"Create Real Magic" demonstrated the rapid pace at which AI initiatives in marketing were being developed.

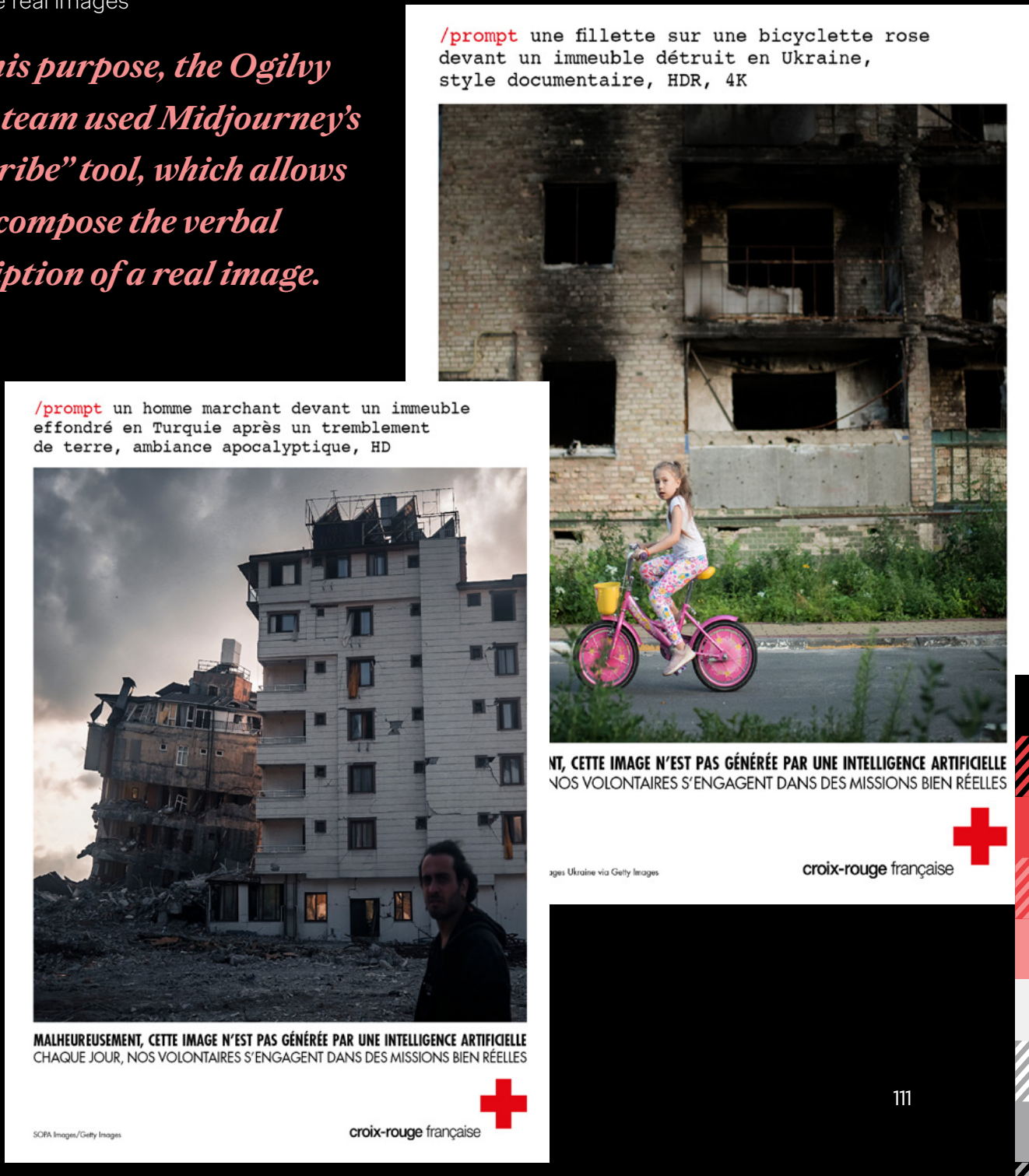
French Red Cross | Not Generated by an AI

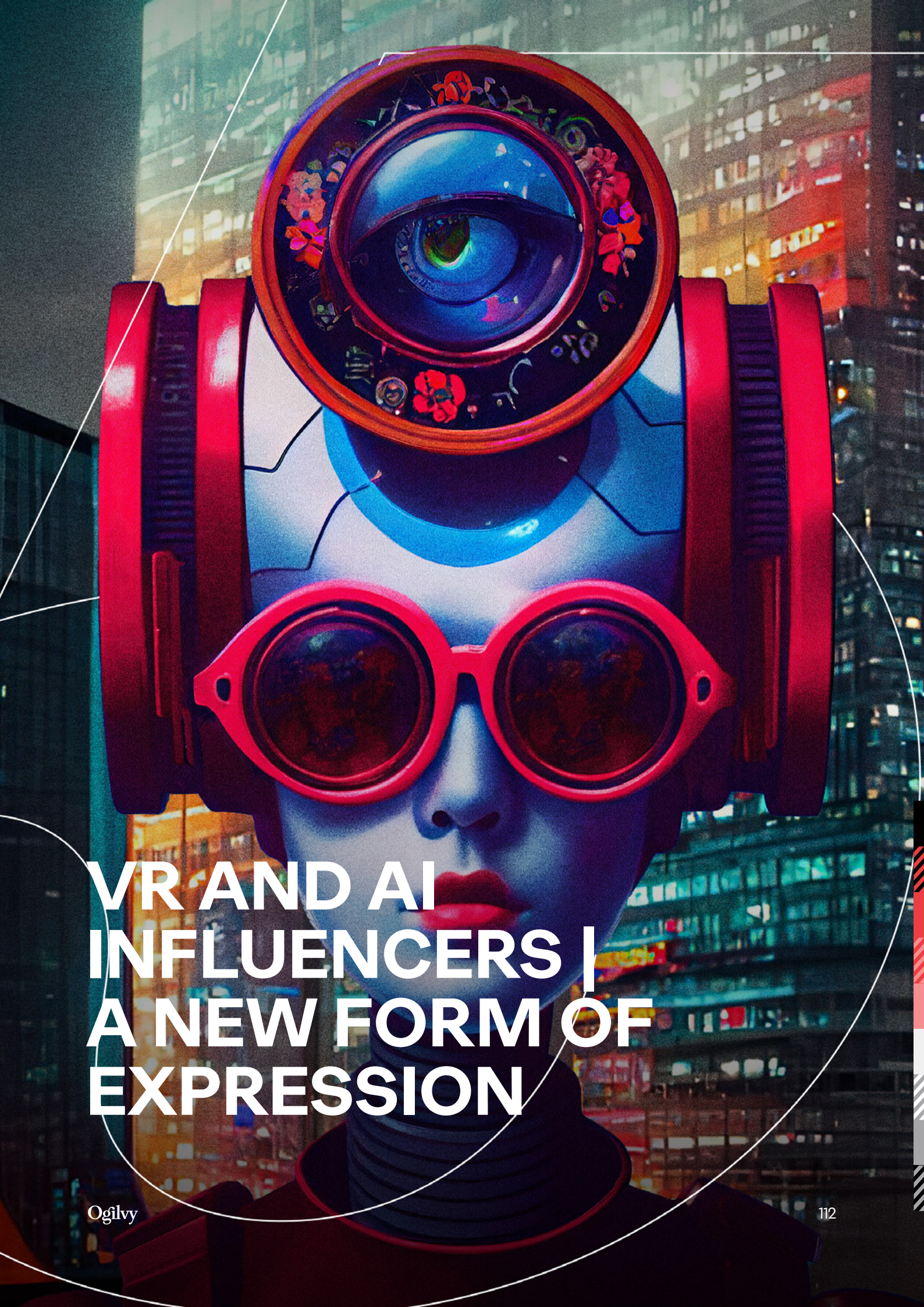
As Generative AI has entered our lives and our screens have been filled with the increasing repost of AI-generated images, AI-generated fake news is increasingly reproduced by many social media users and mass media. Such news flood social media feeds, often distracting us from real events and images that are worth paying attention to.

The French Red Cross decided that it must react to this rapid reproduction of unreal AI-generated images, reminding the world that real images are just as shocking and disturbing—like the ones reflecting real emergencies that Red Cross volunteers deal with every day.

In collaboration with Ogilvy Paris, in April 2023, the organization launched the campaign “Not Generated by an AI,” which brings to the fore heartbreaking images of war and disaster that shock with their reality to such an extent that one would think they would have been created through artificial intelligence. But, these are real images by real photographers in real conditions, experienced by people in Ukraine, the Mediterranean Sea, and even France. These original images are accompanied by captions that show us what the “prompt” behind those photos would be, if they were indeed produced by Generative AI models.

For this purpose, the Ogilvy Paris team used Midjourney’s “Describe” tool, which allows AI to compose the verbal description of a real image.





VR AND AI INFLUENCERS | A NEW FORM OF EXPRESSION

What is a “VR influencer” or an “AI influencer?”

In 2007, Japanese media company Crypton Future Media released Hatsune Miku, a futuristic voice-synthesizer software that allowed users to easily create vocal parts from scratch and change the expression of Miku’s singing voice by adding vibrato, dynamics and other effects gathered from over 100,000 songs released worldwide.

Over time, Miku became a popular music star; she released albums and went on tour, and she has been considered the first “virtual influencer.”

However, the concept of virtual influencers did not gain popularity in the Western world until 2016, when Lil Miquela appeared on Instagram and sparked debates about her identity.

It was only later revealed that she was the creation of a digital agency called Brud, made using computer graphics and photography.

Today, Lil Miquela has a huge following on social media platforms and she actively posts content for her fans.

During the pandemic, businesses and organizations turned to virtual influencers as a cost-effective way to connect with their audiences.

For example, the World Health Organization partnered with Knox Frost, a virtual influencer, to raise over $250 million for a COVID-19 relief fund.

So a virtual "opinion influencer," also known as a "VR influencer," an "AI influencer" or a "synthetic brand personality" ("virtual influencer" for short), is a digital character created using computer-generated imagery (CGI) software.

The character is then given a "personality" and interacts with users on social media platforms.

A study in the US found that 58% of respondents were following virtual influencers at the time it was conducted, establishing such influencers as a powerful force.

According to Christopher Travers, the founder of VirtualHumans.org, "virtual influencers can do anything that human influencers can do, but with more control and engagement."

Shudu, the first digital supermodel, was created using computer graphics. She has been featured in top fashion magazines and even walked the red carpet at a major awards show as a hologram.

Teams of experts are working to make these CGI influencers look alive, deciding how they should behave and interact with others.

Is there AI technology behind the creation of virtual influencers?

Technologies that facilitate the creation of virtual influencers use AI and machine learning to create high-fidelity 3D digital characters.

The technologies use a combination of data-driven and simulation-based algorithms to create realistic facial features, skin textures and other physical characteristics, scanning humans as a reference. Also, the applications used for the animation of virtual influencers leverage face- and body-recognition technology and AI-based tracking.

This allows developers and creators to quickly synthesize digital humans with a high degree of visual fidelity, reducing the time and resources required.

VR influencers such as Serah Reikka are products of semiautonomous AI.

They exist exclusively online and have the ability to change their personalities and appearance based on a set of algorithms.

While a group of people still manages Serah's content, the people cannot predict what she will do or say.

Her software uses information from Wikipedia to make decisions about her actions and language. Serah's appearance even changes over time. She is also extremely efficient; she can produce 100 photos in less than 10 seconds and she is available anytime, anywhere.

Finally, in the realm of online browsing, a special technology for creating virtual beings has been developed, following very specific standards and using AI technology. Websites such as Synthesia.io create automated videos within minutes; users select from available digital characters and enter the text of their choice.

The videos can be played in more than 120 languages via text-to-speech technology.

And virtual influencers can deliver an engagement rate almost three times those of real-life influencers.

Could you ever have imagined that?

The use of virtual influencers has not yet become a standard approach to influence marketing. Thus, the right digital persona can help a brand stand out among all the real people who are already using channels such as Instagram and TikTok.

Moreover, given that digital content can now be created quickly, it stands to reason that it will continue to be successful and audiences will be receptive to artificial content.

Just think of the characters we have connected with and the stories they have told.

Our innate desire to express ourselves is now reflected through virtual influencers—a new form of expression.

Where is this happening?

Virtual influencers are found mainly in the United States, Japan, South Korea and China. This is where digital avatars are widely used by brands. These markets have embraced the use of CGI characters in marketing campaigns.

How does the process work?

Virtual influencers, though they do not "exist" in the traditional sense, are created and controlled by skilled individuals or brands with a strong understanding of technology. These creators (CGI experts working in close collaboration with a communications team) are responsible for building the virtual influencers' social media presence and shaping their images.

Creators have the ability to choose the virtual influencers' appearance, clothing and behavior, the environments they appear in, and the people they interact and collaborate with.

DISADVANTAGES

However, the use of virtual influencers does have some disadvantages.

One of the biggest challenges is their slow response time to the world around them.

It can take several hours for a virtual influencer to answer questions, and even longer for an animated video with speech to be created.

Concerns have also arisen about the potential negative impact that virtual influencers can have on their followers, as one-sided bonds called “parasocial relationships” can be formed.

(The term dates back to a 1959 study examining people’s interactions with TV personalities.)

These relationships, of course, can also be developed with human influencers.

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Today we can use machine learning to automatically create photorealistic artificial bodies, faces and voices, as well as "deepfake" technology, which can replace anyone's face and/or body in a video. This means that creating virtual avatars becomes much easier. Eventually, AI will be able to produce bodies and behaviors without reference to data from humans. However, for virtual avatars to communicate an intended message at a specific time, they still need people's help.

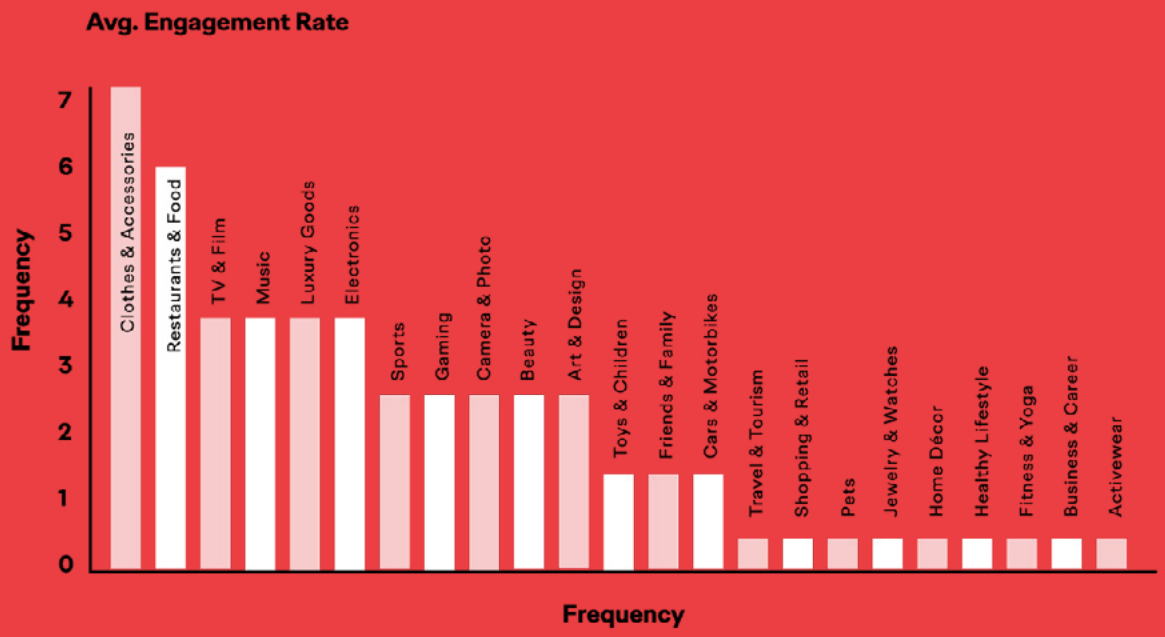
Betaworks' next project will focus on creating "synthetic media," which is a mix of computer-generated images and artificial intelligence.

The company is willing to invest $200,000 in 10 startups with the goal of developing technology that can create superior digital influencers. This is a lucrative opportunity for the startups that will succeed, as they could potentially partner with big brands and make money, as does Lil Miquela, a computer-generated influencer who has already worked with top brands such as Supreme, Samsung and the luxury department store Barneys.

Tensor Social's research presents the industries most often associated with iconic virtual creators, and it further analyzes the top three industries—fashion, entertainment, and beauty—using multiple datasets.

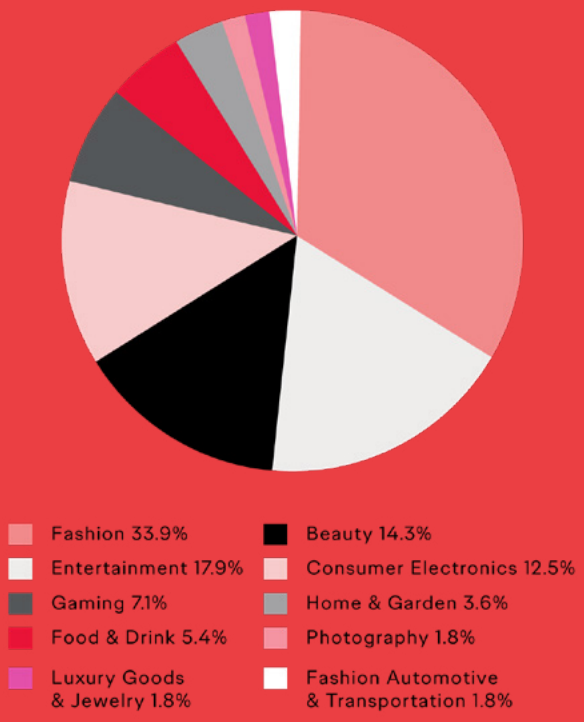
What are the most-common interests on Instagram?

At the moment, the top interests related to virtual influencers on Instagram are clothing, accessories, restaurants and food. Less-popular interests are fitness, yoga, business, careers, and sportswear.



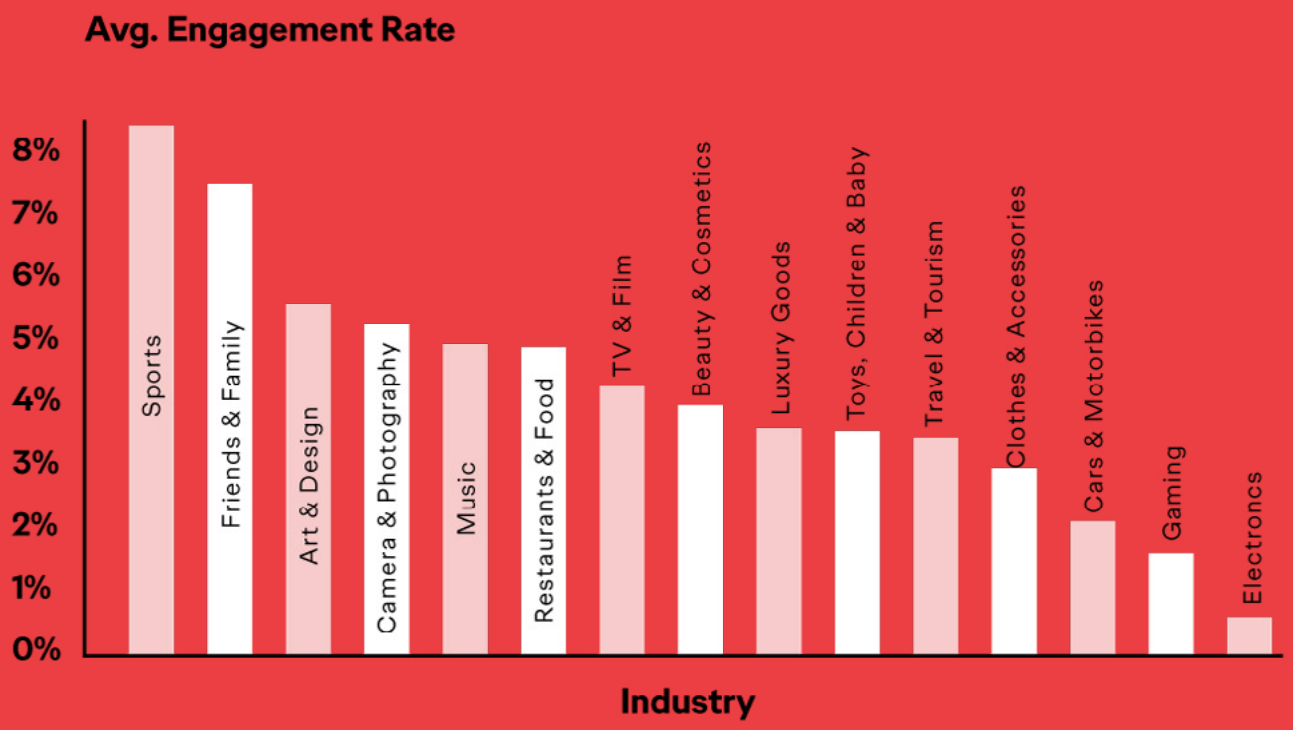
What are the top industries that have partnered with virtual influencers on Instagram?

The fashion industry stands out as the most common industry that top virtual influencers collaborate with on the platform, followed by the entertainment and beauty sectors.



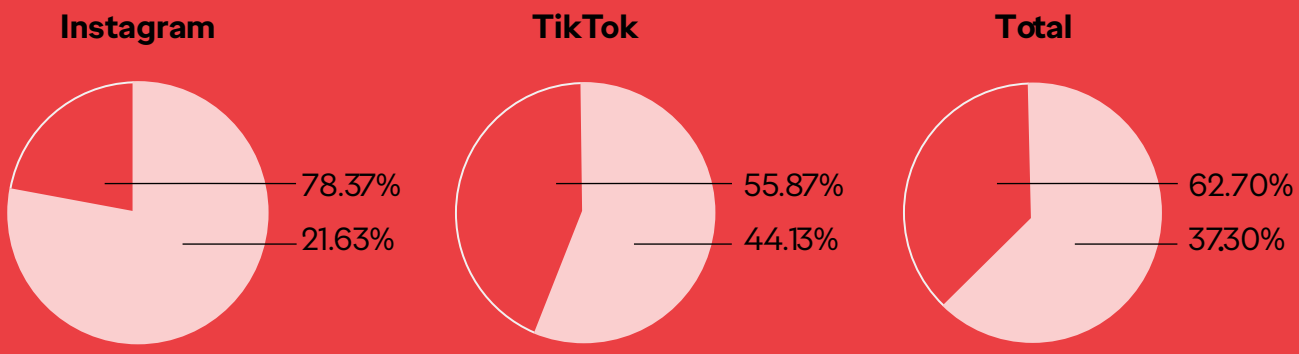
Average Engagement Rate per Industry

Sports and Friends & Family partnerships produced the highest engagement rates.



Audience Segmentation by Gender

Typical audience demographics from the collected data on virtual influencers show the breakdown between males and females in the audience. It is clear that the main composition of the audience across all platforms is female.



Top Brands

High-profile brands such as PacSun, Tommy Hilfiger, Samsung, Epic Games and Gucci have laid the foundations for partnerships with virtual influencers in the sphere of influence marketing.

Engagement and Views on Instagram vs. TikTok

Top creators have the most followers on TikTok and the highest average views compared with those categories for Instagram. On the other hand, the top five virtual influencers on Instagram have the highest average engagement rate among all creators on both platforms.

	Avg. Engagement	Avg. Views (TikTok/Reels)	Follower Total
Instagram (Top 5)	1.23%	679.7K	19.2M
Instagram (Bottom 5)	6.92%	29.3K	149.7K
TikTok (Top 5)	1.40%	1.23M	44.4M

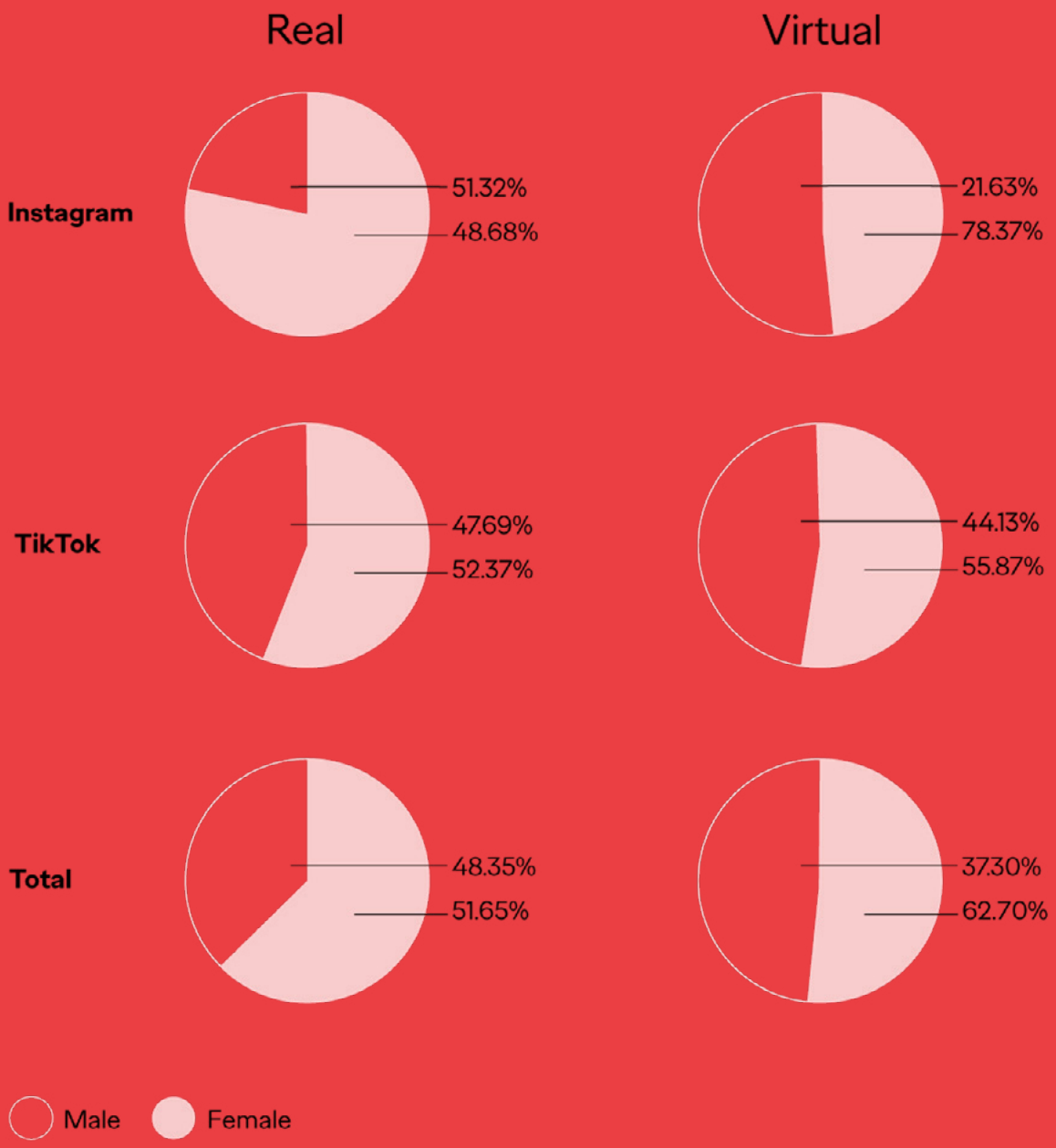
Views

Real-life influencers get more views across the board. It was also found that both real-life and virtual influencers on TikTok get more views than their Instagram counterparts.

	Real	Virtual
Instagram	1,273,860	679,700
TikTok	4,466,412	2,135,873
Total	2,870,136	1,407,787

Real-Life vs. Virtual Influencers:
Audience Gender

Virtual influencers were found to have more female than male followers.
This is particularly noticeable on Instagram, with 78.37% of the audience being female.



THE TOP FIVE VIRTUAL INFLUENCERS

Lu do Magalu

Lu do Magalu was the most popular virtual influencer in 2022, and she continues to be the virtual character most often featured worldwide.

Her popularity is not surprising; she has an impressive following of over 14.6 million fans on Facebook, 6 million followers on Instagram, 2.6 million YouTube subscribers, and 1.3 million followers on Twitter and on TikTok.

Despite her significant reach, her fame is limited mainly to Brazil, where she was introduced ten years ago as a marketing tool for Magazine Luiza, one of Brazil's largest retailers.

Since then, she has appeared in numerous product reviews, unboxing videos and software tips on behalf of the company.

Lil Miquela

Lil Miquela, also known as Miquela Sousa, is a virtual robot model who has shaken up the fashion industry, having worked with some of the biggest brands, including Prada, Dior and Calvin Klein.

In 2017 she released a music single, “Not Mine,” and in 2023 she debuted her first music video, “Hard Feelings,” during the Lollapalooza online festival.

This stunning Brazilian-American model was brought to life by Brud, a Los Angeles–based startup.

Her social media presence is remarkable, with 3 million Instagram followers (known as “Miquelites”), 3.6 million followers on TikTok and more than 31,000 followers on Twitter.

Barbie

Barbie needs no introduction. This familiar brand name has captivated audiences since its debut in the late 1950s.

It was only a matter of time before the iconic blonde beauty appeared on social media to connect with even more fans.

Her largest following is on Facebook, but she also has a significant presence on other platforms, particularly on YouTube, where she creates content as a vlogger.

The number of her social media followers is impressive, with 2.2 million followers on Instagram, 11.1 million subscribers on YouTube, nearly 320,000 followers on Twitter and more than 440,000 monthly listeners on Spotify.

Barbie's social media posts are engaging and socially conscious, with an Instagram post showing her support of the Black Lives Matter movement receiving over 40,000 likes.

Guggimon

Meet Guggimon, a mischievous bunny owned by Superplastic, the world's leading creator of synthetic cartoon celebrities, designer toys, and apparel.

Guggimon has a penchant for all things horror related and describes himself as a "fashion horror artist and mixtape producer" with obsessions that include handbags, axes, designer toys, Billie Eilish, and The Shining.

Originally from Montreal, Canada, Guggimon made his first appearance in June 2019 and has since become a popular character.

You may recognize him from his appearances as one of the stars of an ad campaign for world-famous DJ and producer Steve Aoki on his "Color of Noise" tour.

Any Malu

Any Malu is a fully animated virtual influencer originally from Brazil who is enjoying worldwide recognition.

She debuted in 2015, and the years since she has grown from a simple concept to a YouTube star and a full-fledged transmedia experience.

With more than a million fans on Twitter, TikTok, Facebook and Instagram, this virtual influencer has a significant social media presence.

Her YouTube videos have garnered over 280 million views and she is one of the few virtual influencers who has her own TV show, powered by Cartoon Network, setting her apart from the rest.

HOW GENERATIVE AI WILL BENEFIT BRANDS

The period we are going through is one of the most definitive for brands and marketers.

The innovative AI tools for content production that are emerging one after another have already started to influence the practices of and decisions made by brands for their marketing strategies.

Mailchimp, for example, an email marketing platform that has traditionally had an advertising presence at the Super Bowl, decided to abstain from the big event in 2023 and not create a TV ad.

Instead, it leveraged language-modeling technologies to live-tweet during highlights, commercial breaks and the halftime show.

The move demonstrated the influence generative AI can have on brands—such as on deciding whether to participate or abstain from the biggest TV event of the year.

Of course, generative AI is far from being able to create full campaigns or ready-to-use materials, and the challenges that its technologies present at the moment may mean that many brands will have to keep the tools they have in development "on the bench." However, this does not mean that the brands should not keep working on them until the signal to enter the game.

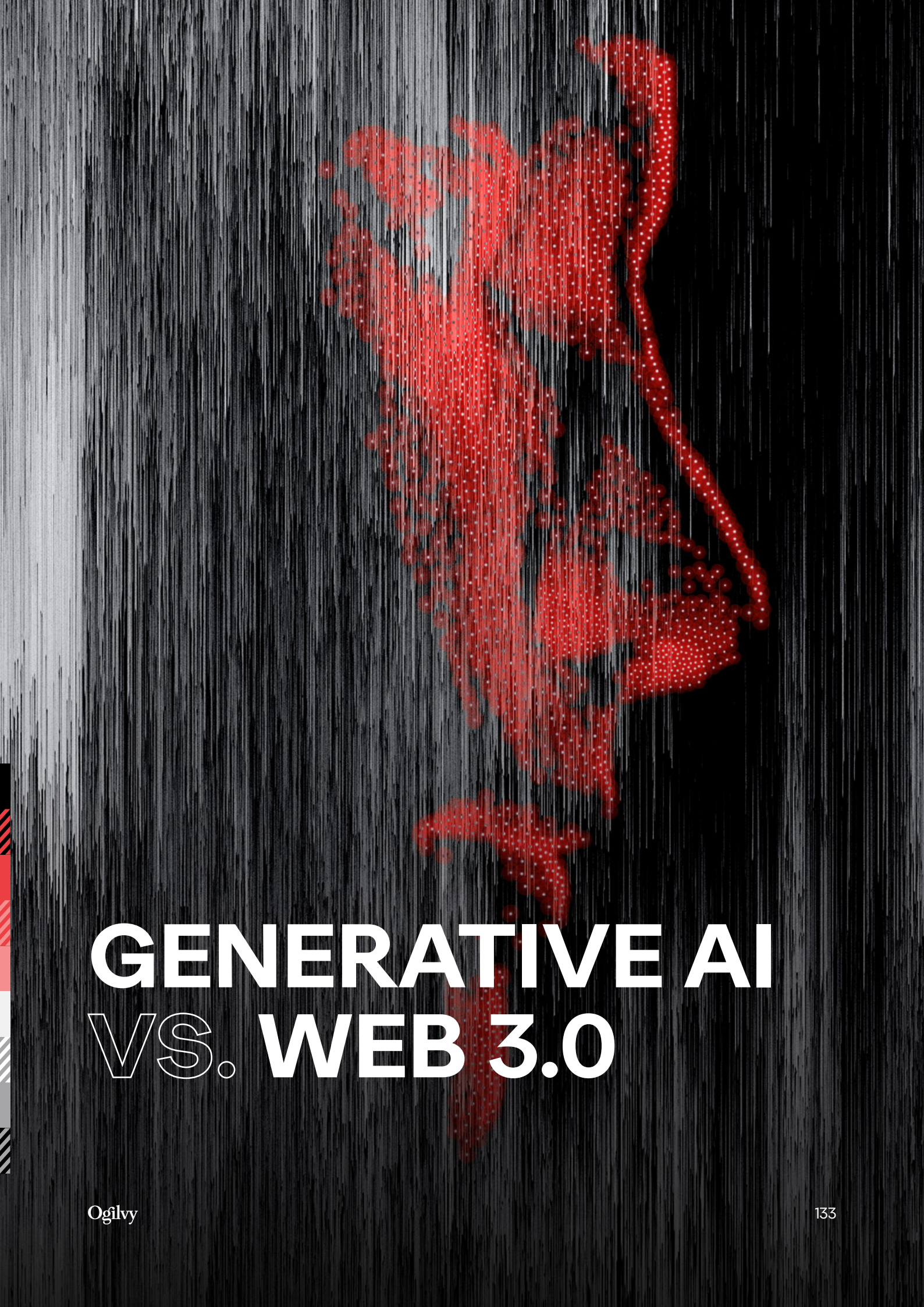
Early experimentation with and testing of technologies will help brands prepare for the new reality of content marketing that will gradually be created through generative AI. And the more prepared brands are, the sooner they will reap some of the future benefits of the ever-evolving tools.

Time

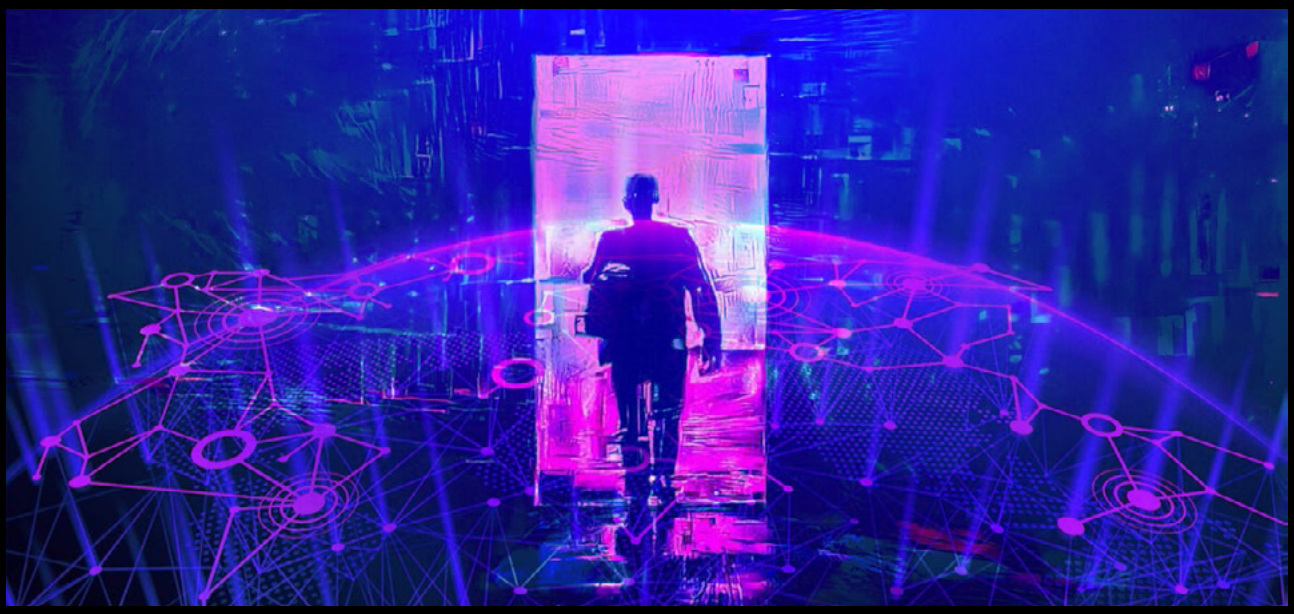
Among those benefits—and perhaps the most essential—is economy of time. Creating content that will meet criteria such as high quality, relevance, attractiveness, and adaptation to the needs of specific target audiences is both a challenging and a time-consuming process, from the conceptualization of a clever and creative idea to its implementation. Generative AI, however, helps professionals become more efficient, allowing them to perform many tasks faster, such as generating ideas, writing long texts, managing community requests, and finding or creating the most-suitable visual or audio materials, leaving the professionals room to focus on other essential work tasks.

Budget

Allocating and managing marketing budgets is also a major challenge for brands—especially when it comes to producing high-quality content, which is linked to the commitment of large budgets to cover production costs. Generative AI technology offers the possibility of cost savings since it provides tools that allow the design of images and 3D models, text writing, video creation, music composition, and many other tasks without the direct involvement of humans. The ability of many models to automate various processes and perform them without the possibility of human error can help brands and marketers reduce their costs.



GENERATIVE AI VS. WEB 3.0



The possibilities and benefits that generative AI technologies can bring to the table for brands have caused a frenzy of creative experimentation with the available tools among marketers around the world.

Just a year ago, however, the same hype existed for the emergence of Web 3.0 and nonfungible tokens (NFTs), with a plethora of brands, such as Ralph Lauren, Starbucks, and the NFL, jumping into the metaverse or creating their own NFTs. (Read our related white paper, "Marketing in the Metaverse," here.)

In a sense, generative AI replaced Web 3.0 as the new market "fad" quite quickly.

One could say that at the moment, these innovations for brands are "luxuries" that need to go through a lot of testing, first to be understood and then to be assimilated " to the brands' standard practices.

However, by adding into the equation a possible economic recession looming on the horizon, with some brands slashing their budgets and facing difficult decisions about their upcoming moves, a dilemma regarding their innovation budget investments is posed: what is more worth investing in? Web 3.0 or AI?

Although there is no absolutely clear answer to this question, since each brand's needs are different, it seems that, at the moment, the utility and benefits of AI technologies are more tangible and can boost productivity more directly.

Furthermore, with Web 3.0 still in its early stages, the number of companies with experience in Web 3.0 that could navigate brands through its still-uncharted waters is limited. In contrast, in the AI universe, the relevant companies, such as Microsoft, are more tested, trusted and established in the technology industry.


CONCERNS

ETHICAL ISSUES

Artificial intelligence is admired for its potential, but the ethical implications of its extensive use are deeply thought-provoking.

The main concerns relate to:

- Disinformation and manipulation of public opinion through false information or deepfakes
- The accuracy or bias of generative AI results, as the process mayreproduce errors or social biases
- Misuse, especially in education, but also in marketing
- Intellectual-property issues
- The future of work

It is now imperative to find a specific framework for the ethical use of AI, and efforts are being made to regulate it at the legislative level, despite the obvious difficulties.

In the US, in 2021, 130 federal legislative proposals related to AI were filed, of which only 2% were incorporated into federal law.

But efforts toward stricter enforcement are not limited to legislation. In March 2023, TikTok announced changes to its community guidelines. Among other things, users are now obliged to flag with clear attributions any AI-generated content they post, and the content may not include synthetic media with real (private) faces; some restrictions exist for the use of public faces as well.

Despite action to regulate the implications of the rapid growth of AI, more and more voices are calling for immediate and drastic measures. In March 2023, the Center for Artificial Intelligence and Digital Policy (CAIDP) filed a 46-page complaint with the Federal Trade Commission, asking it to begin an investigation of OpenAI and to prevent the release of further models until necessary guardrails are established.

THE BATTLE FOR COPYRIGHT

One of the most complex ethical issues involved in generative AI is that of intellectual property.

The question posed by almost all experts is the same: what does intellectual property mean in works created by artificial intelligence?

1. Can works resulting from generative AI be subject to copyright?

In the US, works generated solely by a "machine" are not covered by copyright.

However, the answer to the question may be different if the creator can prove that there was significant human input in the production of the work.

In September 2022, the US Copyright Office issued a groundbreaking decision, accepting the copyright registration of Kris Kashtanova's comic Zarya of the Dawn, which includes images generated by Midjourney.

The author claimed that the book was assisted by AI but not created solely by it, as she conceived and structured the story, designed the layout of each page, and performed the art direction.

Nevertheless, in February 2023, the US Copyright Office declared that the images should not have been granted copyright protection, and the images' copyright protection will be revoked.

Another example of a controversial generative AI project is the Théâtre d'Opéra Spatial, which won first prize in an art competition held in Colorado and caused strong reactions.

For his part, the creator claimed to have spent many weeks curating and adjusting the prompts that created the result, demonstrating the human contribution to the production of the work.

Unlike the US, the UK, which has a legal system of interest to Western startups, recognizes copyright in purely computer-generated works, but it considers the author to be the person who makes the necessary arrangements when creating the work.

Although this case is also subject to debate, it is nevertheless a first step towards providing some form of copyright protection for computer-generated works.

2. Can AI be trained based on works that already involve intellectual-property rights?

One major copyright concern relates to the data used in training AI programs.

Most artificial-intelligence systems are based on text, code, and images that are collected in bulk from the Internet, and these data points are to a large extent protected by copyright.

In the US, researchers and startups argue that their use falls under the US legal theory of "fair use," which allows such data to be used for the purpose of promoting freedom of expression.

While the system's training may be protected by the fair-use doctrine, the same probably does not apply to the work produced by the system.

For now, the legal implications are uncertain, but that situation is expected to change with the adjudication of the first lawsuits that have already arisen (involving GitHub, Stability AI and Midjourney).

AI can now evaluate mortgage applications in just minutes, pass medical school exams and draft congressional legislation.

Recently, an AI model was enlisted as "the world's first robot lawyer" by the startup that created it, DoNotPay, helping a defendant fight a speeding-ticket case. The AI legal assistant will run on a smartphone and listen to court arguments in real time before instructing the defendant what to say via headphones.

"AIs ARE COMING AND TAKING OUR JOBS"... OR NOT?

The ability of artificial intelligence to carry out activities and tasks for which humans need years of study and prior experience has sparked a global uproar over whether generative AI poses a threat to human jobs.

Even the participants at the World Economic Forum held in Davos, Switzerland, in early 2023 expressed concern about the future of white-collar jobs.

Strangely, major tech companies are continually laying off thousands of employees, mainly from departments dealing with VR and mixed reality, while simultaneously gigantic investments are being made in generative AI.

77%

of business leaders expect artificial intelligence to replace some or all of their employees

Source: "Adopt or Fail: Why Business Needs AI," by Wunderman Thompson and Satalia

51%

of business leaders are concerned about the consequences of artificial intelligence on their workforce

Source: "Adopt or Fail: Why Business Needs AI," by Wunderman Thompson and Satalia

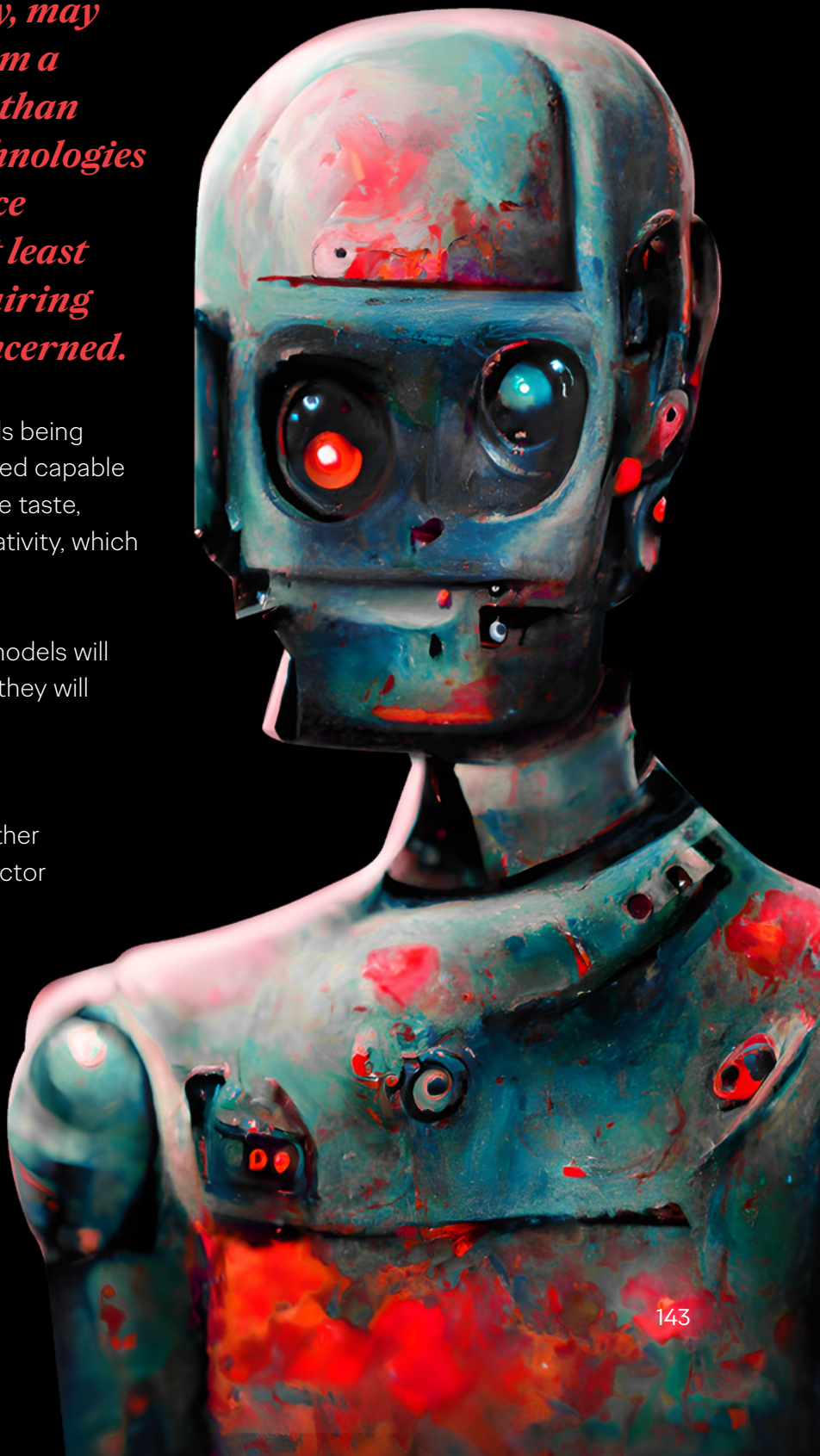
BUT IS ALL THIS WORRY VALID?

Generative AI and artificial intelligence more broadly, may have the ability to perform a multitude of tasks faster than humans do, but these technologies are not expected to replace humans immediately—at least as far as professions requiring human creativity are concerned.

No matter how innovative the models being developed are, they are not considered capable of developing—or even imitating—the taste, judgment, and finesse of human creativity, which is clearly more sophisticated.

However, no one knows how these models will evolve in the coming years and how they will affect this debate.

And while creative professions may not be at immediate risk, there are other jobs—such as those in the service sector and particularly those related to customer service and sales—in which the influence of AI may more quickly leave its mark.



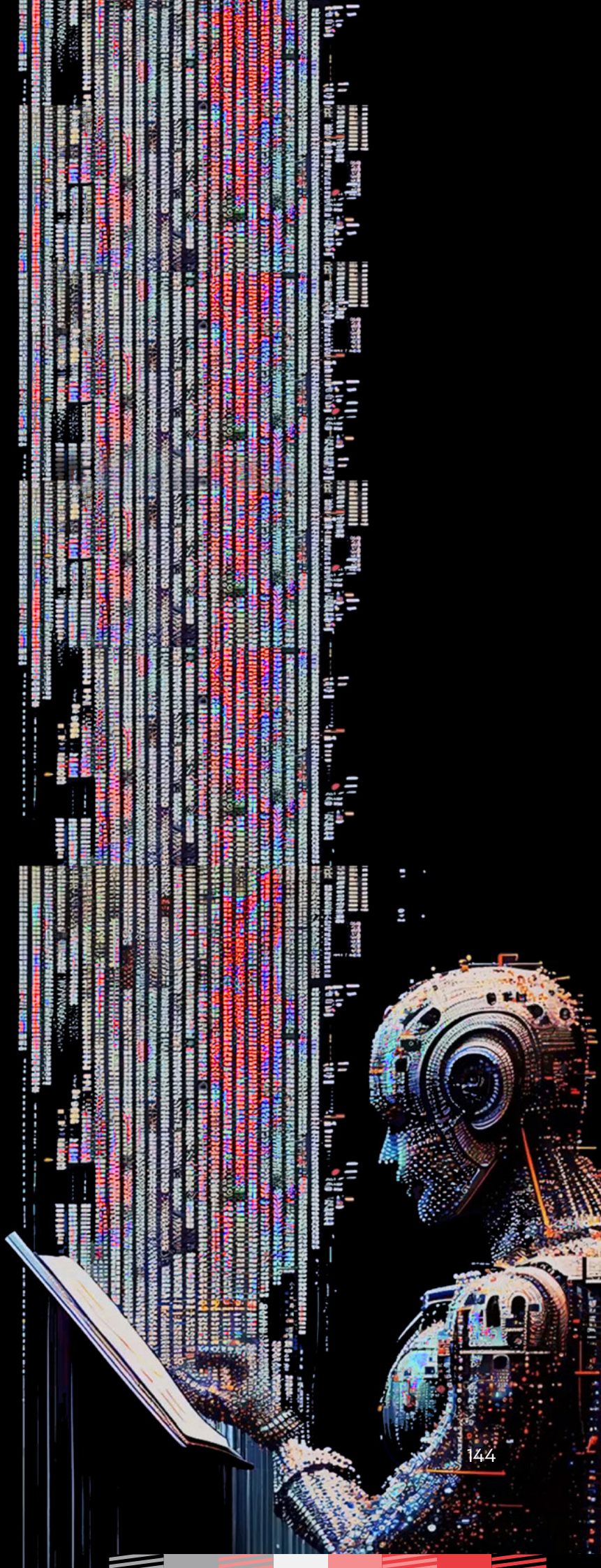
In these job categories, expect a higher rate of automation adoption and greater displacement of human labor as chatbots and speech-generation models evolve rapidly.

The counterargument: every new technology, when adopted, causes the disappearance of some job roles and the parallel creation of new professions (e.g., marketing automation experts; data-science specialists).

According to PwC, it is estimated that by 2030 artificial intelligence will represent an industry worth over $15 trillion.

In this context, as the use of generative AI becomes more widespread, it is very likely that skills for using the new technologies will become necessary.

For example, the prompting skills required to feed generative AI models have already contributed to the emergence of “prompt engineers.”



As Anu Madgavkar, partner and leader of the McKinsey Global Institute, highlighted,

"One way or the other, people are going to have to learn to work with AI."

Indeed, it is expected that many workers in various sectors, including those in the creative field, will have to adapt to the new conditions created by the evolution of generative AI by adopting practices and gaining in-depth knowledge of new technologies and models that will help them expand their training.

In very simple terms...

> "It's not AI that will take your job; it's the other creative who knows how to use AI that will."

Stephan Pretorius

Global Chief Technology Officer, WPP

KEY TAKEAWAYS

1

Generative AI can already help you

Although still in their early stages, content-generating AI models can help brands and marketing agencies with brainstorming, visual mockups and ideation. But first...

2

Pay attention to the limitations of the models

Using and testing innovative tools is legitimate, but creating content that targets real consumers without the necessary human oversight is not.

3

Establish guidelines

The possibilities of generative AI can "enchant" you so much that you overlook the limitations and challenges it poses.

It's important to determine where and when you can use generative AI models, and how the content they produce can be evaluated and controlled.

4

Evaluate the systems regularly

Generative AI applications should provide transparency about how they train their tools.

It's up to you to make sure they are doing their best to combat hacking, copyright infringement and improper model training.

Listen to your employees

It stands to reason that innovations in artificial intelligence may cause disruptions for employees at any organization and concerns about the security of their positions and the skills they are expected to have or develop.

Stay on their side and listen to their concerns, but also take whatever steps are needed to ensure their flexible education and ongoing training.

FINAL THOUGHTS

Artificial intelligence has already begun to change the way we live by automating various aspects of our daily life.

However, the advent of generative AI, with its innovative tools, brings a different aspect to AI—one that goes beyond the scope of simplifying various processes.

Its ability to create striking original works, from images to novels to realistic virtual worlds, demonstrates how AI is increasingly moving beyond mimicking human capabilities, blurring the boundaries of our ability to distinguish what has been produced by humans and what by algorithms.

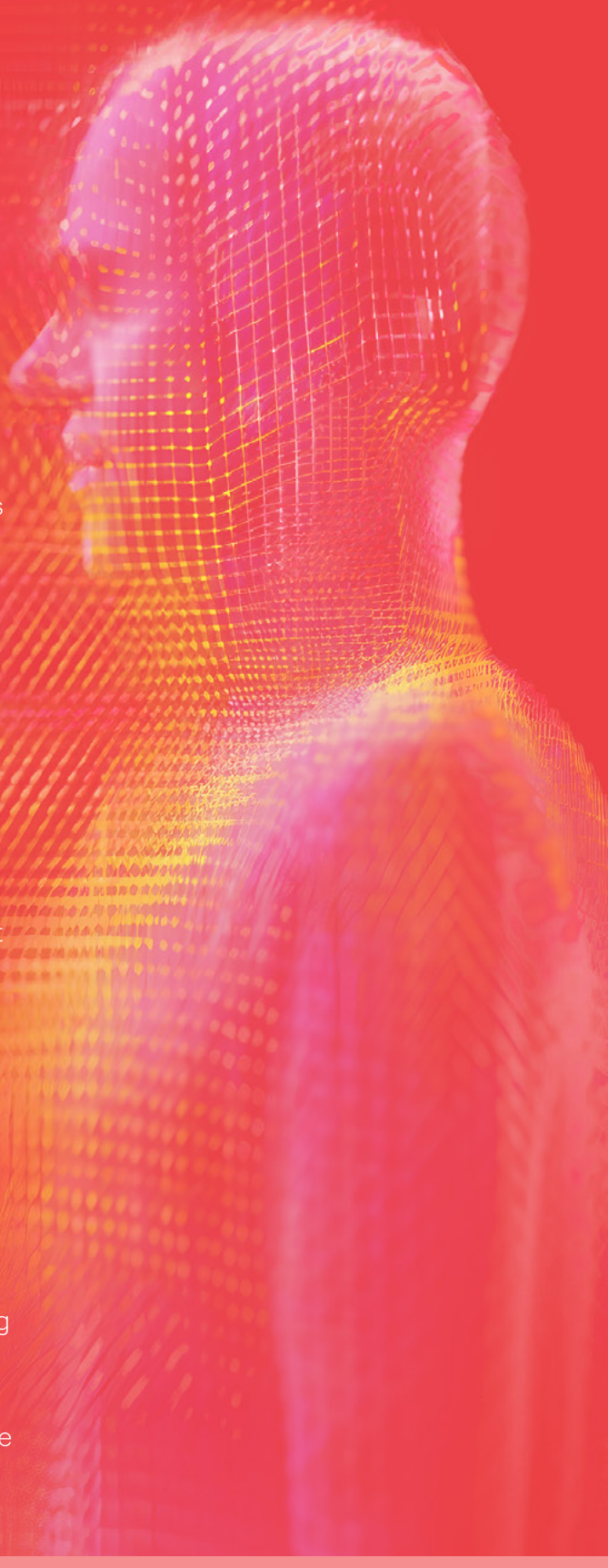
The colossal investments in generative AI by the largest technology players confirm that we are only in the first wave of the revolution that it is bringing to the concepts of creativity and art, causing at the same time excitement, impatience, wonder, reflection, and trepidation about the future of generative AI.

Both consumers and brands (some of which, sooner or later, will be swept away by the current of artificial intelligence) should take their first steps always with the aim of benefiting everyone affected. If we allow ourselves to dream decades ahead, we can now more confidently envision a future in which generative AI is integrated into every aspect of our lives.

It affects the ways we entertain ourselves, how we play, how we create, how we work: autowritten emails; animated movies created directly from scripts; gaming experiences in virtual worlds designed as we imagine them; concerts by singers whose songs, and even selves, were “born” from prompts.

And while the opportunities presented to a plethora of professions, consumers, and brands are exciting, to say the least, we can’t help preparing t o welcome them with caution and skepticism about the complications they may bring with them.


OGILVY
x AI



Artificial intelligence brings a completely new working framework to release the imagination and provide an inexhaustible source of inspiration and creativity.

In February 2023, Ogilvy Paris launched **AI.Lab** to harness and build upon its expertise in using AI to afford brands all the opportunities that AI-art generators can bring to help find ideas that will have an impact on our society and on business.

Beyond putting in place the necessary technology, Ogilvy Paris has assembled and trained a team of art directors, copywriters,

and creative technologists who are abreast of developments and ensure every day how to make the best use of AI.

It also has a legal team dedicated to answering questions of ethics and rights management posed by the use of AI. These teams are working together to bring innovative proposals and solutions to Ogilvy's clientele.

AI.Lab is a center of excellence for artificial intelligence within **REALITY**, Ogilvy's global emerging-experience unit. REALITY translates emerging technologies—including AR, VR, Web3, AI, NFTs, and beyond—into relevant and accessible creative experiences for brands so they can effectively build a bridge between today's reality and future realities.

For more information on AI and how Ogilvy can help you create impactful, immersive creative ideas and experiences for your brand, contact **lucy.simmons@ogilvy.com.**

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SOURCES

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