

Generative AI: A New Frontier in Artificial Intelligence

Generative AI can provide businesses with new opportunities to improve their products and services, automate repetitive tasks, and create new and innovative customer experiences. For example, the marginal cost of producing initial versions of knowledge-intensive content, such as IT code, marketing copy, and creative design, can fall to approximately zero.



What is Generative AI | artificial intelligence that creates original content across various modalities (e.g., text, images, audio, code, voice, video) that would have previously taken human skill and expertise to create



How does it work | Generative AI is powered by foundation models such as OpenAI's GPT-3 and NVIDIA's Megatron, which are trained on vast amounts of data and computation to perform a broad range of downstream tasks



Why now | innovations in machine learning and the cloud tech stack, coupled with the viral popularity of publicly released applications, such as ChatGPT and DALL-E2, have propelled Generative AI into the zeitgeist

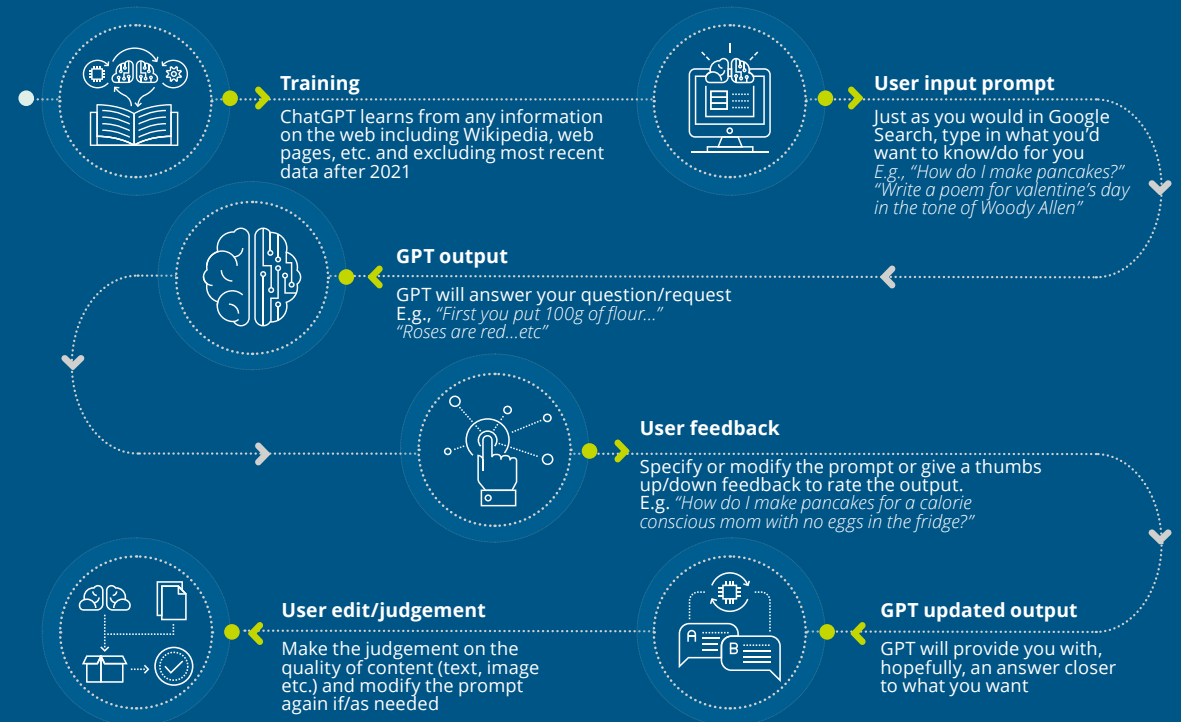


Who is involved | Big Tech is building and enabling access to foundation models; start-ups are developing user applications on these underlying models; and companies are beginning to adopt

Continuous Learning Example

Generative AI can create outputs in various forms, including text, images, video, and audio. For instance, OpenAI has developed ChatGPT, which generates natural and human-like responses to user queries, and Dall-E2, which creates images based on user descriptions. You can try **ChatGPT** and **Dall-E2**. While ChatGPT





continues to learn based on user feedback (as outlined in the example below) the models are continuing to be developed. For example, GPT3.5, which is what ChatGPT is built on, has passed the legal bar in the 10th percentile, while the updated version, GPT4.0, now passes the bar in the 90th percentile.



What it does

Generative AI promises improved efficiency and a new benchmark for productivity for organisations. Generative AI has the potential to reduce the marginal cost of generating knowledge-intensive content to zero. It has the

potential to facilitate the creation of new ideas and information at a faster rate, and potentially of higher quality, than what could be achieved through human effort alone. The below are examples of how generative AI can be used.

Text/Code	Image/Video	Speech/Audio	3D
 <p>Generate text that can summarise existing content</p> <p>▼</p> <ul style="list-style-type: none"> • ChaptGPT by OpenAI • Luminous by AlephAlpha • Bloom by BigScience • ChatLLaMA by META 	 <p>Generate abstract or hyper realistic images and videos</p> <p>▼</p> <ul style="list-style-type: none"> • Dall-E 2 by OpenAI • Imagen by Google • DreamStudio by Stability AI • MidJourney v4 by MidJourney 	 <p>Produce high quality speech</p> <p>▼</p> <ul style="list-style-type: none"> • Vall-E by Microsoft • Avatar Cloud Engine by NVIDIA • MusicLM by Google 	 <p>Generate 3D objects given text prompts /2D inputs</p> <p>▼</p> <ul style="list-style-type: none"> • Point E by OpenAI • Get3D by NVIDIA • DreamFusion by Google

What it means for you

Generative AI will augment existing roles and create new jobs.

Even as new use cases emerge at an accelerating pace, we believe the market will unfold in six ways:



Contact us:

We'd love to chat to you more about Generative AI and the value it can bring for your business.



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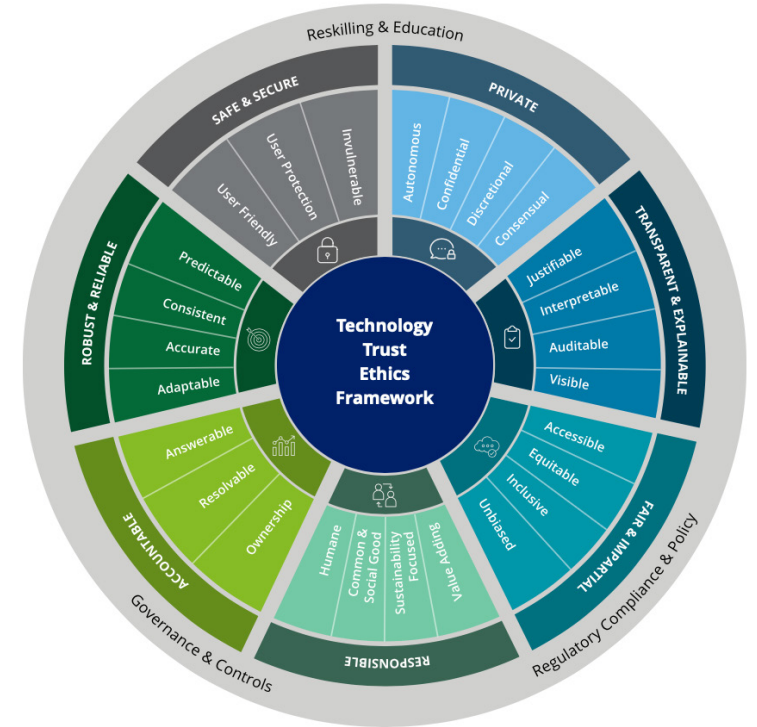
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How to Start

Organisations can start using Generative AI by leveraging open-API or SaaS foundation models to tune industry-agnostic use cases (e.g., contracting, IT, marketing) and industry/sector-specific use cases, all built on top of advanced GPU architecture.

Like all AI models, there are fundamental challenges that require careful consideration, including user privacy, transparency and explainability of outcomes, accountability, robustness, and reliability. The Technology Trust Ethics Framework can be leveraged to assess a model's fairness and impartiality, social and ethical responsibility, as well as safety and security implications.



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