

## Navigating through the ethos and sophistication of Generative AI

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Generative AI has been the underpinning and steering factor as AI advances from auto-pilot mode to co-pilot mode. Now the new course—of fairness, equity, bias-free development, and deployment—will require responsible policymaking

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Thanks to the AI-infused breakthrough and trailblazing advancements, the race to AI supremacy has gained unprecedented steam. Amidst all the expanding dimensions and

evolving developments in this arena, Generative AI has emerged as the most potent technology in the digital arsenal.

Its accelerated adoption, scores of use cases and ubiquity permeating across the spectrum of industries have been underpinning the watershed moment we are witnessing in AI history. Upon its launch, ChatGPT—an application of Generative AI-based Large Language Models—took just a couple of months to garner 100 million user bases. A remarkable record compared to most of the present-day popular social networking/messaging apps. Generative AI, in its present state, has traversed a long way to represent the crossing of a Rubicon. Flipping through the pages of its chronicle, the first exploration and experiments with Generative AI date to the mid-1960s when Joseph Weizenbaum programmed 'Eliza', a chatbot intended to act as a psychotherapist. However, it was not until 2014 that it started capturing people's imagination and attention when Ian Goodfellow introduced Generative Adversarial Network (GAN)—a Generator and Discriminator based Deep Learning model.

The Large Language and Multimodal are the prominent applications of GANs powered by the transformer architecture, attention mechanism and RLHF (Reinforcement Learning through Human Feedback). Devouring a mountain of data and colossal computing power, these models craft, create and conjure up a piece of text or multimedia with statistical and probabilistic pastiche in an increasingly impressive way. Then, be it journaling a vivid travelogue, creating AI-rendered selfies and paintings, summarising the highlights from a recently concluded webinar, composing a soulful rendition, or creating a customised interior design and art piece for your newly occupied home or office, it creates hyper-realistic outputs—quite close to human-like creations and inspired imaginations, with exceeding speed, finesse, and panache.

Steering the productivity bandwagon, Generative AI has been not only the underpinning but also the steering factor as AI advances from auto-pilot mode to co-pilot mode—in the role of an advisor, therapeutic assistant, or coach, working with us as our companion, co-creating, crafting, and collaborating with us seamlessly in an equal partnership. Harmonising time and effort, its range of applications can vary from drafting the first version of a professional email to iterate and edit to creating illustrious presentations and writing pieces of code when prompted, to analysing topical trends, statistics and generating distilled analytics and visualisation on top a given dataset while also summarising key discussion points from a hybrid meeting. In the co-pilot mode, it is poised to metamorphosis the fundamental way people work as the groundwork is taken care of by the Generative AI, enabling you to invest in your thoughts and time to curate a more meaningful, differentiated and impact-oriented final output.

Expanding the realm of plausible use cases, another frontier supercharged by Generative AI is

audio. Subject to their consent, archived voice recordings and voice skins can be leveraged to clone the voice of a celebrity, influencer and even loved ones with a full range of emotional heft. While it finds illustrious use in arenas such as entertainment, creation of audiobooks, podcasts, marketing, and sales promotion audio pitches—at scale, it also anchors the real-time communication by automated translation and dubbing the audio content from one language to another with the same voice and emotional intensity. Sounds surreal? Well, it's not so, and if created and used responsibly with unalloyed intent, it enables and empowers organisations and freelancers to strengthen their top-line growth.

Moreover, integrating Generative AI in managing customer relationships, product design and management, education, healthcare, clinical research, and many other sectors can be a game changer across the industry. Be it about generating distilled insights from a literary review of a given journal or storytelling with data or creating a personalised patient engagement strategy or drug discovery and research, or be it about creating a marketing pitch, pricing strategy, or creating a prototype of the envisioned product in an agile way—the list evolves and continues. Figure 1 provides a glimpse of the use cases across the industries.

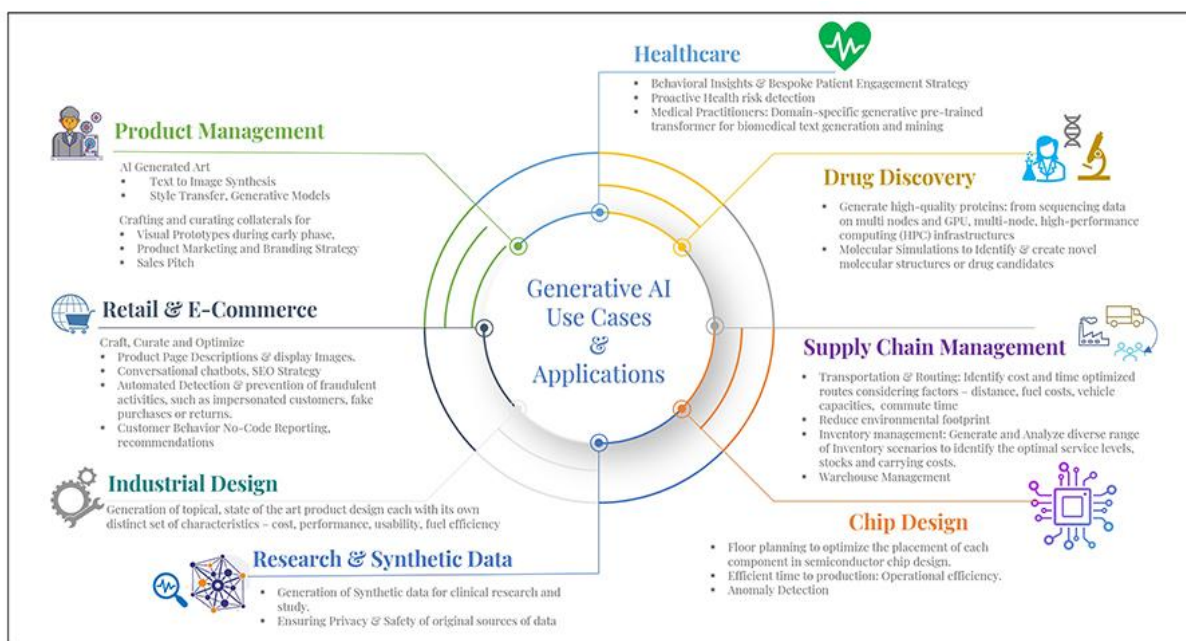


Figure 1: Generative AI Use Cases across Industries & Domains

Any talk about this incredibly powerful and disruptive technology would be incomplete without talking about the challenges and concerns plaguing it, which in its cardinal form merits our attention, mile-deep thorough analysis, and focused and meaningful action. As we analyse the cobweb of concerns, the key theme that emerges as a deterrent in the coherent absorption and adoption of Generative AI or AI at large is 'Human Distrust'.

For instance, technology and wherewithal to fly a pilotless plane or drive a driverless car exist today. However, the intriguing part is how many of us feel comfortable flying on a pilotless plane and returning home in a driverless car. What would be some of the credulous ways to instil trust in AI and the output produced by Generative AI?

Of late, news portals have been replete with citations that an application of Generative AI has cleared the United States Medical Licensing Examination besides successfully clearing the MBA test at Wharton. While this is impressive, a nuanced perspective leaves us with the thought of who shall be securing a seat in the college on behalf of Generative AI.

As the artwork generated through Generative AI has emerged as the contest winner and generates soulful renditions, the concerns around plagiarism, copyright and IP laws still hold good.

Another prominent case of Generative AI where the danger looms large is deep fakes and synthetic media. Over the years, con artists and hackers have weaponised deep fakes to create fake and artificial identities of people and impersonate celebrities to commit fraud, money laundering and online theft. While these technically sophisticated deep fakes create and give rise to alternate facts narrative, it also acts as a breeding and fertile ground for 'The Liar's Dividend,' where a legitimate but undesired truth is expelled as deep fake. The sheer reason is the out-and-out existence of deep fakes that provides significant weight to falsehoods.

The strategy to ensure that the code scripted by Generative AI, when stitched together, works well as required in each context and is sans any technical debt demands diverse, human-in-the-loop, and focused discussions and approaches at every step of the product and technology development.

The list of above-stated concerns is merely a glimpse of the headwind in the seamless adoption and integration of this potent technology across industries and day-to-day lives. As it evolves further, more of it remains to be witnessed and actioned upon. In our approach to clinch fairness, equity, bias-free development, deployment, and use of Generative AI, it's crucial for us to consciously have a multi-stakeholder policy and strategy that is infused with the pre-eminent tenets of Responsible AI and AI TRiSM—Trust, Risk and Security Management.

In its journey from being just a table stake to a differentiator, a sentient, nuanced and harmonised strategy is needed to curate the state-of-the-art framework in pursuit of instilling trust and reliability, managing governance, efficacy and ensuring robustness, fairness, and

data protection. While this acts as a baseline during each step of ideation, design, development and deployment of Generative AI models, augmenting the approach with periodic validation of concept and data drift in these models will enable us to understand its topical use while also working on overcoming the limitations, if any.

And as it progresses towards making rapid strides, a brave new world awaits this quintessential technology that is responsible, sensible, and human-centred in its approach and results while also enabling and empowering humankind and society with unalloyed benefits.

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