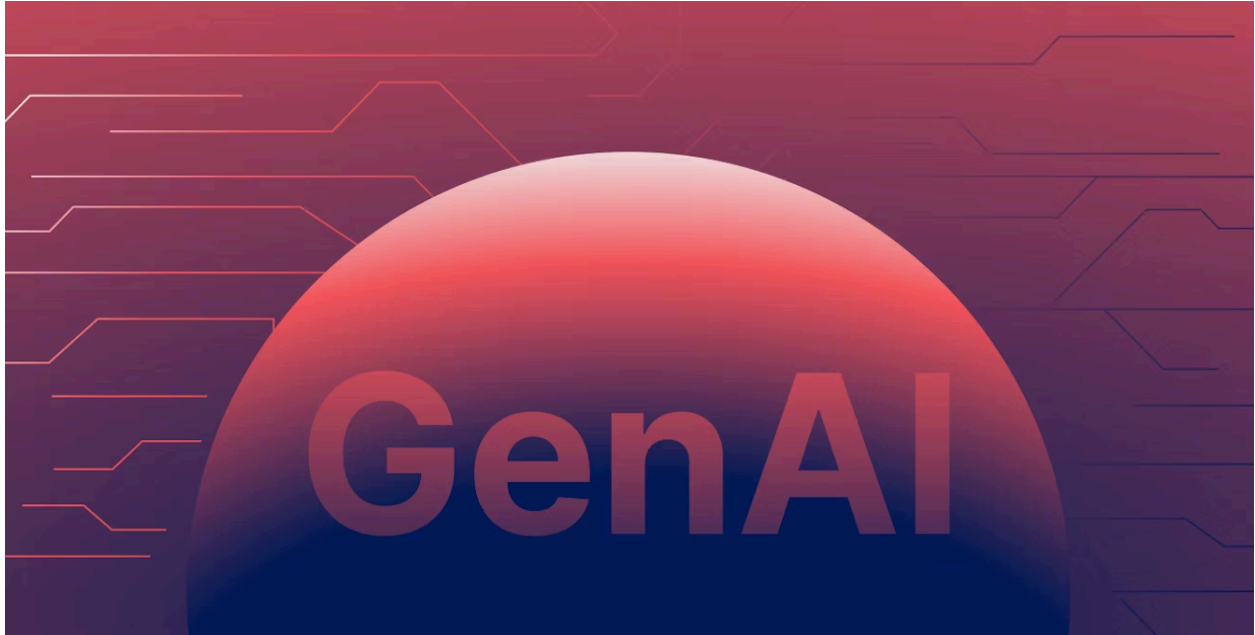


Gen AI

What is Generative AI?



Gen AI, short for **Generative Artificial Intelligence**, is a type of AI that is capable of **creating new content**—like text, images, audio, video, and code—in response to a user's request (often called a "prompt").

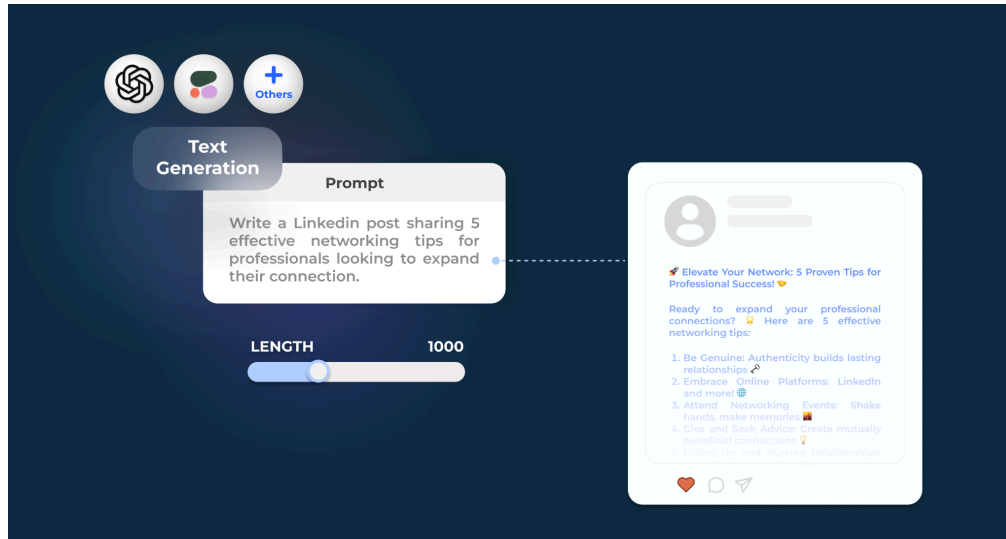
Unlike earlier forms of AI that were primarily used for analysis, classification, or prediction based on existing data, Generative AI models **learn the patterns and structures** of the vast datasets they are trained on (like books, articles, and images from the internet) and then use that "knowledge" to generate novel, realistic, and often original outputs.

Key Aspects of Gen AI:

- Its main purpose is to generate something new.
- Powered by Deep Learning models particularly neural networks like Transformers
- Gen AI is used across many fields like Text, Images/Video, Audio, Code.

Types of Gen AI Application

Text Generation:



Uses Large Language Models (LLMs) to create coherent, contextually relevant, and human-like text. Use cases include:

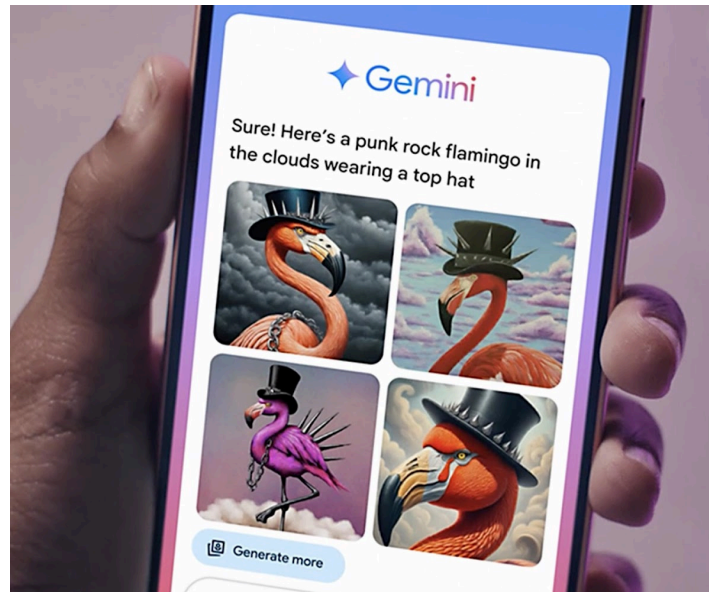
Content Creation: Drafting articles, blog posts, marketing copy, and emails.

Summarization: Creating concise summaries of long documents or meetings.

Customer Service: Powering advanced chatbots and virtual assistants (e.g., ChatGPT, Gemini).

Coding: Generating, completing, translating, or debugging software code (e.g., GitHub Copilot).

Image Generation:



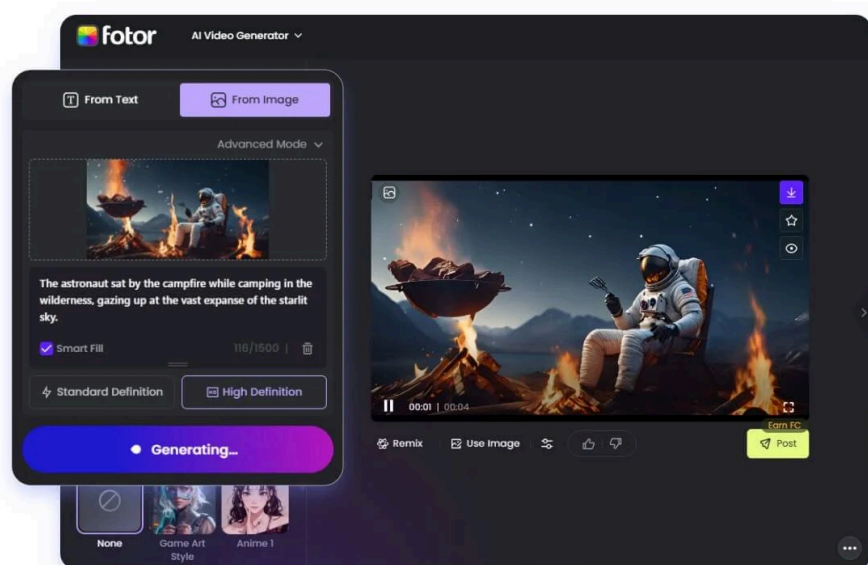
Creates original images, artwork, and visual designs from a text description (text-to-image). Use Cases include:

Art & Design: Generating unique artwork, logos, and graphic design elements.

Marketing: Creating product visuals or ad images for campaigns quickly.

Editing: Modifying existing images (e.g., adding or removing objects, changing style) (e.g., DALL-E, Midjourney, Stable Diffusion).

Video Generation:

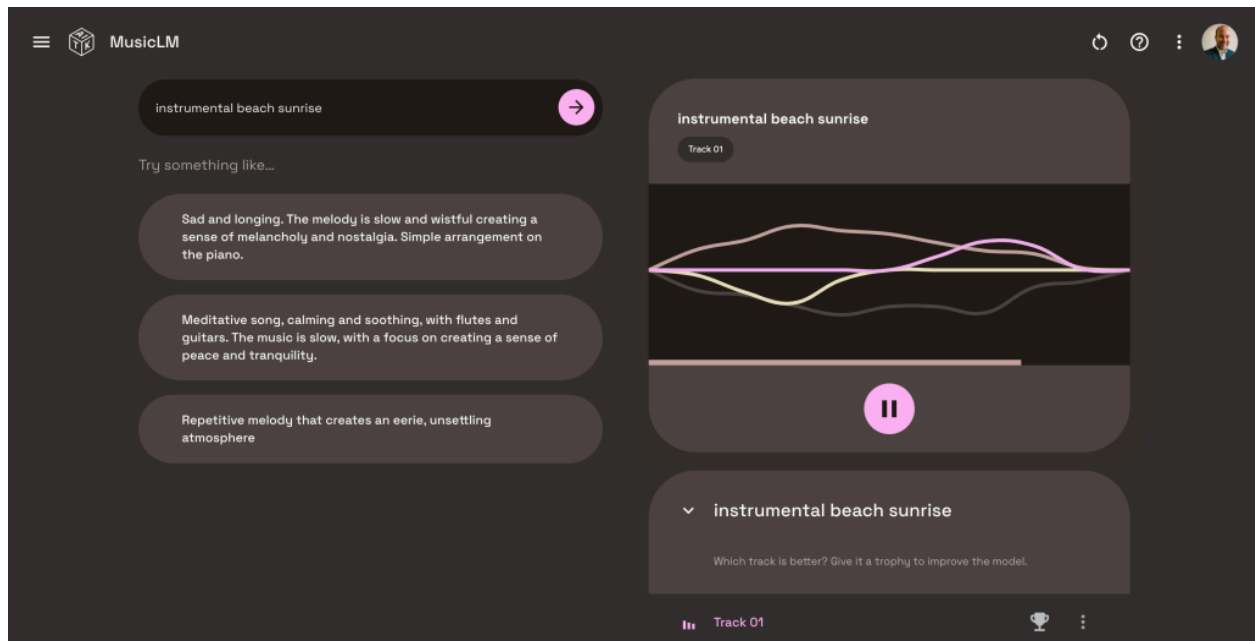


Creates new video clips, animations, or edits existing footage, usually from a text prompt (text-to-video). Use cases include:

Media & Entertainment: Generating short film clips, animating characters, or creating special effects.

Marketing: Producing localized or personalized video ads without a full production team (e.g., Runway Gen-2, Sora).

Audio Generation:



Creates original music compositions, realistic speech, or sound effects. Use cases include:

Media: Composing adaptive soundtracks for video games or virtual reality.

Voice Cloning: Generating natural-sounding voiceovers for audiobooks, podcasts, or virtual assistants (speech synthesis).

Podcasting: Transcribing audio to text (speech-to-text) for show notes.