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1. OpenAI launches Sora: How AI can create videos from a text prompt



Why in news?

OpenAI, the creator of the revolutionary chatbot ChatGPT, has unveiled a new generative artificial intelligence (GenAI) model that can convert a text prompt into video.

The model, called Sora, can generate videos up to a minute long while maintaining visual quality and adherence to the user's prompt.

However, OpenAI has cautioned that the model is far from being perfect and may still struggle with more complex prompts. Before launching Sora to the general public, OpenAI will begin its outreach programme with security experts and policymakers to try and ensure that the system does not generate misinformation, and hateful content among other things.

Why could Sora be a big deal?

While generation of images and textual responses to prompts on GenAI platforms have become significantly better in the last few years, text-to-video was an area that had largely lagged, owing to its added complexity of analysing moving objects in a three-dimensional space.

While videos are also a series of images and could, therefore, be processed using some of the same parameters as text-to-image generators, they also have their unique set of challenges.

Other companies too have ventured into the text-to-video space. Google's Lumiere, which was announced last month, can create five-second videos on a given prompt, both text- and image-based. Other companies like Runway and Pika have also shown impressive text-to-video models of their own.

Is Sora available for use by everybody?

Not yet. The company has said that it will take some "safety steps" ahead of making Sora available in OpenAI's products, and will work with red teamers—domain experts in areas like misinformation, hateful content, and bias—who will be "adversarially" testing the model.

The company is also granting access to a number of visual artists, designers, and filmmakers to gain feedback on how to advance the model to be most helpful for creative professionals.

Relevance: GS Prelims; Science & Technology

Source: The Indian Express

2. Why is the GSLV rocket nicknamed 'naughty boy'?



Why in News?

The Indian Space Research Organisation's meteorological satellite, INSAT-3DS, was successfully placed into its intended orbit by Geosynchronous Launch Vehicle F14 (GSLV-F14) recently.

The mission was crucial for the GSLV rocket nicknamed 'naughty boy' due to its inconsistent record.

Why is the GSLV rocket called 'naughty boy'?

The GSLV gained the nickname naughty boy as at least four out of 15 previous launches with the

rocket have been unsuccessful. In comparison, only three of the 60 missions so far by ISRO's workhorse PSLV (Polar Satellite Launch Vehicle), and none of the seven by its successor LVM-3, have failed.

So what has been the problem with the GSLV?

It has to do with the cryogenic stage of the rocket. Unlike its predecessors, GSLV uses cryogenic engines — they consist of liquid hydrogen and liquid oxygen — that provide far greater thrust than the engines used in the older launch vehicles.

Take the example of the August 2021 failure of the GSLV-F10. About five minutes into the launch, the flight of the rocket, which was carrying an earth observation satellite EOS-03, deviated from its scheduled trajectory. The first and second stages of the GSLV functioned normally and detached. But the upper stage, powered by a cryogenic engine fuelled by liquid hydrogen and liquid oxygen at very low temperatures, failed to ignite. The rocket lost the power to carry on and its remains, along with that of the satellite, most likely fell off somewhere in the Andaman Sea.

A similar issue had led to the failure of GSLV-D3 as well in April 2010. That was the first flight of GSLV with an indigenous cryogenic engine modelled on the Russian design, very similar to the one flown in August 2021. The cryogenic stage had failed to ignite on that occasion as well.

Eight months later, the next GSLV flight, this time being powered by a Russian cryogenic engine, the last one of the seven that Russia had supplied as part of a deal in the 1990s, also failed. A failure analysis had found malfunctioning in the electronics of the cryogenic engine.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: The Indian Express

3. Court orders Trump to pay over \$350 million: What is the case — and can the former president afford the penalty?

Why in news?

Former US President Donald Trump must pay more than \$350 million plus interest charges potentially adding another \$100 million for fraudulently overstating his net worth to dupe lenders, a New York court judge ruled.

Capping the yearslong case, Judge barred Trump from holding top positions at any New York company, including parts of his own Trump Organisation, for three years. The judge also handed over a two-year ban to Trump's adult sons and ordered them to pay more than \$4 million each.

What was the case?

In 2022, New York Attorney General Letitia James filed a civil suit against Trump, his adult sons, and his former aide Allen Weisselberg. She accused them of lying to lenders and insurers by fraudulently overstating the value of properties to "either lower his tax bill or improve the terms of his loans.

What did the court say?

In September 2023, the judge found Trump and other accused guilty of committing fraud and ruled that no trial was needed to ascertain the accusations levelled by James.

Ultimately, the Judge ordered Trump to pay more than \$350 million plus interest and banned him from doing business in New York for three years. He also ruled that no bank chartered or

registered in New York should lend to Trump and several of his businesses and entities for three years.

Will Trump be able to pay the penalty?

According to a Forbes Magazine report, Trump's total net worth is around \$2.6 billion. The penalty imposed on the former president accounts for 14-17% of his wealth.

Relevance: GS Prelims; International Issues

Source: The Indian Express

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