Deepfake Technology

For Prelims: Deepfake technology, deep synthesis technology, Artificial Intelligence technology,

For Mains: Impact of Deepfake Technology.

Why in News?

The **Cyberspace Administration of China**, the country's cyberspace watchdog, is rolling out new regulations to restrict the use of **deep synthesis technology** and curb disinformation.

- The policy requires deep synthesis service providers and users to ensure that any doctored content using the technology is explicitly labelled and can be traced back to its source.

What is Deep Synthesis?

- **Deep synthesis** is defined as the use of technologies, including **deep learning** and **augmented reality, to generate text, images, audio** and **video to create virtual scenes.**
    - One of the most notorious applications of the technology is **deepfakes,** where synthetic media is used to **swap the face or voice** of one person for another.
    - **Deepfakes** are getting harder to detect with the advancement of technology.

What is Deepfake Technology?

- **About:**
    - **Deepfake technology** is a method for manipulating **videos, images, audios** utilizing powerful computers and deep learning.
    - It is used to generate **fake news** and **commit financial fraud** among other wrong doings.
    - It overlays a digital composite over an already-existing video, picture, or audio; **cybercriminals** use **Artificial Intelligence technology.**
- **Origin of the Word:**
    - The term **deepfake** originated in **2017**, when an anonymous Reddit user called himself **"Deepfakes."**
    - This user manipulated **Google's open-source, deep-learning technology to** create and post **pornographic videos.**
- **Misuse:**
    - **Deepfake technology** is now being used for **nefarious purposes** like scams and hoaxes, celebrity pornography, **election manipulation**, social engineering, **automated disinformation attacks,** identity theft and financial fraud etc.
    - Deepfake technology has been used to impersonate notable personalities like former U.S. Presidents Barack Obama and Donald Trump, India's Prime Minister Narendra Modi, etc.

What are other Countries doing to Combat Deepfakes?

- **European Union:**

- The **European Union** has an updated **Code of Practice** to stop the spread of disinformation through deepfakes.
- The **revised Code** requires tech companies including **Google, Meta,** and **Twitter** to take **measures** in **countering deepfakes** and **fake accounts** on their platforms.
- They have **six months** to implement their measures once they have signed up to the Code.
- If found **non-compliant**, these companies can face fines as much as **6%** of their annual global turnover, according to the updated Code.
- Introduced in **2018**, the **Code of Practice** on Disinformation brought together for the first-time worldwide industry players to commit to counter disinformation.
- **United States:**
  - The **U.S.** introduced the **bipartisan Deepfake Task Force Act** to assist the Department of Homeland Security (DHS) to **counter deepfake technology.**
  - The measure directs the **DHS** to conduct an annual study of **deepfakes** assess the technology used, track its uses by foreign and **domestic entities**, and come up with available countermeasures to tackle the same.
  - **California and Texas** have passed laws that criminalize the publishing and distributing of deepfake videos that intend to influence the outcome of an election. The law in Virginia imposes criminal penalties on the distribution of nonconsensual deepfake pornography.
- **India:**
  - In **India**, however, there are **no legal rules against using deepfake technology.**
  - However, **specific laws** can be addressed for misusing the tech, which include **Copyright Violation, Defamation and cyber felonies.**

Way forward

- As **media consumers,** we must be able to **decipher, understand, translate,** and use the information we encounter.
- The best method to deal with this problem is with technical solutions supported by **artificial intelligence** that can **recognize** and **block deep fakes.**
- Prior to resolving the issues associated with **deep fakes, media literacy** has to be improved.
- There is also a need for **easy-to-use** and accessible technology solutions to detect **deep fakes, authenticate media,** and **amplify authoritative sources.**
- On the part of **society,** to **counter the menace of deep fakes,** there is a need to take the responsibility to be a **critical consumer** of media on the **Internet, think** and **pause before sharing on social media,** and be part of the solution.

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