Voice Cloning

Why in News?

Voice clone fraud has been on the rise in India.

What is voice cloning?

- **AI voice cloning** – It is the process ***of creating a synthetic replica of a person's voice*** through machine learning and speech synthesis technology.
- It is called as ***voice deepfakes*** or *audio deepfakes*.
- **Objective** – To achieve a ***high level of naturalness*** that sounds exactly like a person's voice.

Usage of Voice Deepfakes

- **Voice assistants** – Creation of ***personalized voice assistants***, chatbots, video game characters, animated film avatars, custom call centre voices, and much more.
- **Language translations** – ***Meta's SeamlessM4T***, can understand nearly 100 languages from speech or text and generate translations in real-time.
- **Protecting original voices** – ***Apple*** introduced a voice cloning feature to help people who may be in danger of losing their voice say to a degenerative disease.
- **Creating new songs** – ***YouTube's Dream Track*** partners with creators in the U.S. to allow them to create song clips featuring AI vocals with permission from pop stars.
- **AI Voice Scams** – Easy access to AI voice clones also *spawned disinformation*.
- **Rallying for votes in Election** – A Pakistan based political party used an *AI-generated speech from the now imprisoned leader* in an attempt to rally for votes virtually.
- **Generating hate speech** – Harry Potter actress Emma Watson voice reading out a portion of the Mein Kampf.

How are voice clones done?

- It is a complex process that involves audio data, an algorithm to train on the data, and finally fine-tuning your cloned AI voice.
- **Requirement** – AI model will require audio data for the machine learning process to trigger.
- **Ways to share audio data** – Uploading an audio file or recording voice samples in the app.

- The recorded or uploaded audio data is then analyzed by our model to extract various acoustic features, such as pitch, tone, and rhythm.

- **Speech synthesis** – The analysed audio is used to train a speech synthesis model, such as a neural network.
- The model is trained on this data to pick up on the nuances and acoustic features of the user's voice.
- **Speech perfection** – Once the voice is cloned, the user has the option to continue refining the AI voice with various voice augmenting variables such as prosody, phoneme, and emotions.

A report by Market US has revealed that the global market for these applications stands at $1.2 billion in 2022 and is estimated to touch almost $5 billion in 2032 with a CAGR above 15-40%.

What is the scenario of AI voice clone scams in India?

- **'The Artificial Imposter' Report**– India topped the list with the maximum number of victims.
    - 47% of surveyed Indians have either been a victim or knew someone who had fallen prey to the scam.
    - Scam in India is almost twice the global average of 25%.
- **McAfee Report –** 66% of Indian participants admitted that they would respond to a voice call or a phone call that appeared to be from a friend or family member in urgent need of money.
    - The most effective excuses used by the sender were that they had been robbed (70%) and involved in a car accident (69%).
    - 86% Indians were prone to sharing their voice data online or via voice notes at least once a week.

What can be done?

- **Starting voice cloning challenges** – Public can be asked to send in their ideas to detect, evaluate and monitor cloned devices.
- **Adopting impersonation rules** – It will help deter deceptive voice cloning
- **Quickening regulators response** – The control measures be taken at the pace at which generative AI releases are moving.
- **Digitally signed videos** - To verify that content can be trusted.
- **AI voice clone detectors** – Advancing their development and promoting its active usage.
- ***Cracking down social media platforms*** to control the spread.
- **4 dangerous signs to watch out for**
    - Unexpected calls
    - Urgent requests
    - Unnatural speech patterns
    - Requests for money or personal information

References

1. The Hindu| Voice Cloning as Scams
2. Resemble.AI| Process of Voice Cloning
3. Times of India| Measures to control Voice Cloning Scams

