IIT ROPAR DEVELOPS UNIQUE DETECTOR 'FAKEBUSTER' TO DETECT IMPOSTERS ATTENDING A VIRTUAL CONFERENCE

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Children attend online classes at a learning hub in Los Angeles, California. | Photo Credit: AFP

The Indian Institute of Technology in Punjab's Ropar on Wednesday said that the institute along with Australia based Monash University has developed a unique detector named 'FakeBuster' to detect imposters attending a virtual conference without anybody's knowledge.

The detector can also find out faces manipulated on social media to defame or make joke of someone, said an official statement.

In the present scenario of pandemic when most of the official meetings and work is being done online, this standalone solution enables a user to detect if another person's video is manipulated or spoofed during a video conferencing, it added.

"Sophisticated artificial intelligence techniques have spurred a dramatic increase in manipulation of media contents. Such techniques keep evolving and become more realistic. That makes detection difficult", said Dr. Abhinav Dhall, one of the members of four-man team that developed the 'FakeBuster'. Other members include Assistant Professor Ramanathan Subramanian and two students Vineet Mehta and Parul Gupta.

Countering deepfakes, the most serious AI threat

A paper on this technique — FakeBuster: A DeepFakes Detection Tool for Video Conferencing Scenarios — was presented in the 26th International Conference on Intelligent User Interfaces, in USA, last month.

Dr. Dhall said that the usage of manipulated media content in spreading fake news, pornography and other such online content has been widely observed with major repercussions. He said such manipulations have recently found their way into video-calling platforms through spoofing tools based on transfer of facial expressions. These fake facial expressions are often convincing to human eye and can have serious implications. These real time mimicked visuals (videos) known as deepfakes can even be used during online examinations and job interviews.

The deepfake detection tool 'FakeBuster' works in both online and offline modes. Since the device can presently be attached with laptops and desktops only "we are aiming to make the network smaller and lighter to enable it to run on mobile phones-devices as well", said Mr. Subramanian. He said the team is working on using the device to detect fake audios also.

The IIT team asserted that 'FakeBuster' is one of the first tools to detect imposters during video conferencing using DeepFake detection technology. The device has already been tested and would hit the market soon.

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This could have impact on incurable diseases, so-called undruggable ones like pancreatic cancer

Skinks are non-venomous, their inconspicuous limbs make them resemble snakes