

TECH

People with less analytical ability more likely to spread deepfakes

Study shows other factors linked to deliberate sharing of deepfake content include social media use and 'Fomo'

Kenny Chee
Senior Tech Correspondent

It might be easy to laugh off last year's deepfake TikTok videos of an impersonator, whose face was swapped with actor Tom Cruise's, doing things like speaking Japanese and acting cute.

With the help of artificial intelligence (AI), he looked almost indistinguishable from the real star and many people were initially fooled.

But such technology has also been used for more ominous purposes amid the Russia-Ukraine conflict. Last Wednesday, a deepfake video of Ukrainian President Volodymyr Zelenskyy was added to a hacked Ukrainian television news outlet's website. In the clip of unknown origin which was also circulated on social media, the fake president tells his soldiers to surrender.

However, the fake drew ridicule because of telltale signs such as differences between the skin tone of his neck and face.

Now, new research suggests the reasons people deliberately share deepfakes like these with others could be linked to social media use, the fear of missing out (Fomo) and a person's analytical skills.

A study by a Nanyang Technological University (NTU) social scientist published last month found that people who tend to use social

media to get their news fix are more likely to intentionally share deepfakes such as AI-manipulated pictures, videos or audio clips with others.

It also found that such social media use was linked to people who were more anxious about being out of touch with their social connections, which could influence them to share deepfakes.

The findings were based on online surveys of about 760 people in the United States and 530 in Singapore in 2020, and were consistent for both countries.

Social media use for news was gauged by asking respondents things like how often they read their social media news feeds for social, political or public affairs news.

To measure Fomo, they were asked questions such as whether they got anxious when they did not know what their friends were up to. Analytical skill was assessed through a word test where people were given several words and asked to find synonyms from lists.

Prior research has shown that getting news from social media is a social experience, unlike reading the news from traditional sources like newspapers, said Assistant Professor Saifuddin Ahmed from NTU's Wee Kim Wee School of Communication and Information.

Prof Saifuddin, who authored the research paper on the latest findings, told The Straits Times



Above: A screenshot from a deepfake clip making it seem as if Ukrainian President Volodymyr Zelenskyy was telling his soldiers to surrender amid the conflict between Ukraine and Russia. PHOTO: INTELNESA/TWITTER



Right: A screenshot of a TikTok deepfake video showing an impersonator, whose face was swapped with Hollywood actor Tom Cruise's, doing things like speaking Japanese and acting cute. PHOTO: DEEPTOMCRUISE/TIKTOK

that a person might read a news report on politics that appears on his social media feed because he follows the feeds of news outlets or because his friends liked the report.

This also allows the person to keep tabs on what his friends are interested in, and the topics that are trending.

A person can use the knowledge to manage social relationships with friends, giving him new conversation points he can bring up with them, and creating something in common between them.

"This creates a social system of sharing and reading news. Because I'm connected to my friends, this (system) can also induce Fomo," said Prof Saifuddin.

"What if all my friends are talking about Ukraine but I'm not? And all of them are sharing news about Ukraine but I'm not? This would increase levels of Fomo and then, in turn, influence deepfake sharing."

But a person's cognitive abilities might play a role too, with the research showing that those who scored lower in analytical skills tended to share deepfakes.

Prof Saifuddin said it is likely that they do not question the deepfakes they come across, and will share those they feel to be funny or novel, in order to get likes.

They also do not understand the consequences of their actions if someone in their network believes the fakes to be the real deal.

FEAR OF MISSING OUT

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ASSISTANT PROFESSOR SAIFUDDIN AHMED, on a study showing that Fomo, or fear of missing out, is one reason why people share deepfakes online.

Prof Saifuddin said that while the deepfake issue here is not as bad as in Western countries, it poses a serious threat to the social cohesion and political stability of any nation.

Many people have been tricked by deepfakes. A study Prof Saifuddin led that was published in 2020 showed that half of the people here said they were aware of deepfakes. But of these, a third said they had accidentally shared such fakes on social media.

"What makes deepfakes interesting and dangerous is that they obscure factual information and fuel



uncertainty," he said, adding that they could seed doubt on whether bona fide news videos are genuine.

By knowing how people engage with deepfakes and who is vulnerable, safeguards can be developed. These could include targeted education efforts to protect those with lower levels of analytical skills against the fakes, said the social scientist.

Beyond political causes like those involving the fake Ukrainian president video and disinformation campaigns, cyber-security firm Mandiant said that deepfakes have been used in crimes. In January, it observed cybercrooks selling deepfake software to bypass face authentication for bank applications in South America.

Making deepfakes might not be that costly. Mandiant has found cyber criminals posting advertisements promoting deepfake services from US\$20 (\$27) a minute for a fake clip to more than US\$250 for a full video. There are also ads for deepfake training courses for US\$200.

"While there has been a push to develop deepfake detection technology in recent years, the widespread availability of deepfakes has outpaced the applications created to stem their efficacy," said Mr Lim Yihao, Mandiant's head of intelligence for the Asia-Pacific.

kennyc@sph.com.sg