

# AI can analyze radiation from HDMI cable signals to hack data on the screen

Researchers at the University of the Republic of Uruguay have created an AI algorithm that analyzes the electromagnetic radiation that the HDMI cable creates during the process of transmitting encrypted image data to the screen, thereby eavesdropping on the data. screen.



This is considered an unimaginable and scary technique because it was done in an era when images were transmitted in digital form.

Previously, when using analog technology to guide images onto the screen, hackers, by interfering with the signal leaking from the data transmission cable, were able to completely recreate the images displayed on the screen.

But when digital signal compression protocols and HDMI standards are used, image signals become much more complicated, and it is not easy to intervene to steal them.

Every HDMI cable when transmitting digital image signals from the computer to the screen always creates electromagnetic radiation.

Uruguayan researchers trained an AI algorithm on the radiation and visual signals displayed on the screen and decoded the images based on the electromagnetic radiation it read. As a result, this algorithm recreates characters on the screen from the HDMI cable signal with a current accuracy of about 70%. This number is enough for the human eye to read the characters displayed on the screen based solely on measuring the radiation that the cable emits during operation.

However, if high-tech criminals use this technique, they can place signal receiving devices inside a room or building, or nearby, using antennas to receive radio waves. Passwords, sensitive data or messages are encrypted

when businesses' computer systems operate.

At the present time, to carry out cyber attacks through solutions using AI and electromagnetic wave readers, the cost is not cheap.

Perhaps the reason why Uruguayan researchers developed and demonstrated an AI model that can snoop on data on computer screens is to make the global security community pay more attention to cyber attack and intervention solutions based on computer screens. today's most advanced technologies, thereby finding ways to minimize risks.

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