

8 April 2025

Professor ECHIZEN Isao and Professor YAMAGISHI Junichi of NII and Professor BABAUCHI Noboru of the Fukui University of Technology win the Award for Science and Technology (Research Category) for “Pioneering Research to Prevent the Spread and Generation of Fake Media”

- The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology 2025 -

For their achievements in “Pioneering Research to Prevent the Spread and Generation of Fake Media”, Professor ECHIZEN Isao (Information and Society Research Division) and Professor YAMAGISHI Junichi (Digital Content and Media Sciences Research Division) of the National Institute of Informatics (NII; Director-General: KUROHASHI Sadao; Chiyoda-ku, Tokyo) and Professor BABAGUCHI Noboru (Dean of the Faculty of Management and Information Sciences) of Fukui University of Technology (President: KAKESHITA Tomoyuki; 3-6-1, Gakuen, Fukui City, Fukui Prefecture) won the Award for Science and Technology (Research Category)^(*) of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology 2025, which was announced by the Ministry of Education, Culture, Sports, Science and Technology on Tuesday, April 8, 2025.

[Background of the research]

With the rapid development of generative AI and other AI technology, it is now possible to easily generate “synthetic media” by training AI with information originating from humans, such as faces, bodies, or voices, and using the AI to synthesize video and audio. These synthetic media have the potential to expand the scope of video and audio utilization and enrich our lives. However, at the same time, the threat of criminal organizations abusing generative technologies has also become real, as they may create fake media for the purpose of fraud, propaganda, or a manipulation of public opinion, eventually plunging society into chaos. This is a global problem that needs to be addressed urgently.

^(*) **Award for Science and Technology (Research Category):** One of the awards in the commendation by the Minister of Education, Culture, Sports, Science and Technology, which is given to those who have made outstanding achievements in research and development and the promotion of understanding of science and technology. The Award for Science and Technology (Research Category) goes to individuals or groups that have made unique and innovative research or inventions with a high potential to contribute to the development of science and technology in Japan.

[Research results that were appreciated]

Before Professor ECHIZEN and his colleagues started this research, technologies for breaking through authentication by means of forged fingerprints and veins, or printed materials of human faces were under focus as a threat posed by fake, and many researchers were actively searching for countermeasures against this.

Here, Professor ECHIZEN and his colleagues broadened their perspective and were among the first in the world to point out the threat of misuse of fake media such as AI-generated video and audio, even before it became a social issue. Advocating the need for technical countermeasures, they started a project headed by Professor BABAGUCHI to prevent the spread and generation of fake media in 2016.

In 2018, they proposed the world's first method to use AI for the detection of fake facial images, and in the following year, 2019, they proposed a method for detecting fakes while inferring the falsified areas at the same time, thus creating a research field called "deepfake detection".

A project centered on Professor YAMAGISHI also produced groundbreaking academic achievements, including the establishment of a method to protect voice privacy and the construction of a large-scale dataset consisting of fake voices and real voices, to be used for evaluation in an international competition for fake voice detection.

In recognition of the innovativeness of the research and the world-leading research results, Professor ECHIZEN and his colleagues received the Award for Science and Technology (Research Category) of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology 2025.

Details of the award are as follows.

**Award for Science and Technology (Research Category), The
Commendation for Science and Technology by the Minister of Education,
Culture, Sports, Science and Technology 2025**

Pioneering Research to Prevent the Spread and Generation of Fake Media

ECHIZEN Isao	National Institute of Informatics (NII), Research Organization of Information and Systems Professor, Information and Society Research Division
YAMAGISHI Junichi	National Institute of Informatics (NII), Research Organization of Information and Systems Professor, Digital Content and Media Sciences Research Division
BABAGUCHI Noboru	Professor, Dean of the Faculty of Management and Information Sciences

About the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology: The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology was established in fiscal 1959 by the then-Science and Technology Agency to honor researchers with outstanding achievements in research and development and the promotion of understanding of science and technology. The commendation aims to increase the motivation of people engaged in science and technology and to contribute to raising the level of science and technology in Japan. The award in the research category is given to researchers who have conducted unique and innovative research or development with a high potential to contribute to the development of science and technology in Japan.

Major papers: MesoNet: a Compact Facial Video Forgery Detection Network. IEEE International Workshop on Information Forensics and Security (WIFS 2018). pp. 1 -7, published in 2018
Preventing Fake Information Generation Against Media Clone Attacks. IEICE Transactions on Information and Systems. vol. EI04-D, no. 1, pp. 2-11, published in 2021

Comment from Professor ECHIZEN:

"I am deeply honored to receive the prestigious Award for Science and Technology (Research Category) of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology. Moreover, I would like to express my sincere gratitude to everyone involved for the guidance and support they have given me up to now. Even before deepfakes became a social issue, we predicted the threat of fake media made by generative AI and have since been engaged in research to prevent their generation and spread. In addition, by hosting international competitions, establishing a research base in Japan, and working on the practical application of research results, we have been making efforts to solve the social issue of defending ourselves against fake media. We will continue our research to contribute to AI security."

Comment from Professor YAMAGISHI:

"I am honored to receive the highly prestigious Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (Award for Science and Technology). As an expert in speech information processing, I will continue my research on technical countermeasures against fake media."

Comment from Professor BABAGUCHI:

"I am honored and humbled to receive the prestigious Commendation by the Minister of Education, Culture, Sports, Science and Technology (Award for Science and Technology (Research Category)). As a researcher, I am delighted to see that the innovativeness of our research project initiated in 2016 has been recognized. I would like to sincerely thank and share this honor with all the researchers and students who have worked with me on this research project so far."

<Media inquiries>

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