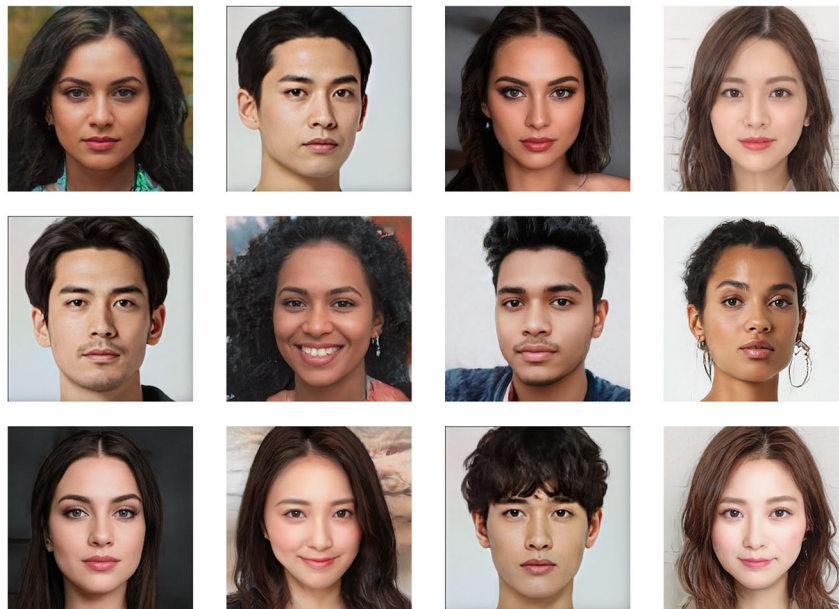# Videos with Virtual Humans, Made Easy: Nikkei Innovation Lab Develops New Production System

October 4, 2021 - Nikkei Innovation Lab, a research and development organization of Nikkei Inc., has developed a system to produce videos using AI-generated images of people (known as "virtual humans") in collaboration with DATAGRID Inc. The system is based on AI-generated graphics depicting non-existent humans or real people. It gives users the ability to produce their own videos with the freedom to specify exactly what they want to express.

The system can be used for a variety of purposes, such as news reporting and hosting online events. Until now, video production has required extensive expenditures for purposes such as securing performers, filming staff, and studio facilities. The new system makes it possible for anyone to create a simple yet sophisticated video at any time.

Examples of virtual humans automatically generated by AI.

This technology is different from the conventional technique of capturing images of people and then using the results to create CG. Instead, it enables AI to learn about the characteristics of human photographs and automatically generate more natural-looking depictions of people.

By combining lip-sync technology, which shapes the lips in a natural way based on inputted voice data, with technology that changes facial expressions, we have succeeded in developing the ability to create realistic videos of virtual people. Lip-syncing in multiple languages is possible, regardless of the language in which the voice data is inputted. Our technology enables the deployment of diverse virtual humans of every race, age, gender, and linguistic ability.

The older method of creating an image of a person from CG requires a specialist and a time-consuming process. In contrast, our system is expected to greatly reduce costs. In the past, it took from several to ten days to create a movie by shooting images of a person, conducting 3D modeling, and recording voices. With our system, however, it is possible to produce a video in a single day.

This system also allows you to create your own videos based on real people by preparing photos and videos. You can even replace only the face of a real person with that of a virtual human. In the future, it will also be possible to upload your own video and create a digital avatar of yourself.

Nikkei Inc. obtained permission from about 160 young employees to use their facial images for the AI process. It then created a virtual male and female exhibiting the characteristics of young employees.

This system will be used within the Nikkei group. A video produced with this method was published in the Nikkei Online Edition, and the QR code leading to the video was posted in the "Nikkey's Big Question" column of the evening edition of the Nikkei on October 4.

About DATAGRID Inc.

DATAGRID Inc. is an AI startup that promotes research, development, and social implementation of deep generative models (generative AI). It employs features such as a GAN (generative adversarial network), an advanced AI framework that is making its presence felt around the world, with the mission of "co-creating products that blend AI with nature." Using its AI assets, DATAGRID cooperates with partner companies in various industries to develop and commercialize different types of products and services. DATAGRID's digital human-related technologies are attracting attention around the world with technology such as the "full-body model automatic generation AI" announced in April 2019.

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