

NEC develops super-resolution technologies for fine magnification of surveillance camera images

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NEC Corporation announced today the development of super-resolution technologies for fine magnification of surveillance camera images, including persons' faces and license plates.

Until now, existing technologies required numerous still images from a video in order to improve a subject's resolution and enable its [magnification](#). However, these images blur when magnified by more than 2 or 3 times (4 to 9 times the number of pixels). Therefore, significant demand remains for technologies that improve resolution and enable images to be magnified with greater clarity.

NEC's new technologies create a super-resolution image from just one shot of a subject, such as a person's face or a car's license plate, by utilizing a database (library) of categorized images. This enables images to maintain fine details even when magnified by more than 4 times (more than 16 times the number of pixels), making it possible to distinguish small and distant subjects, which was difficult with conventional technologies. These new technologies are expected to be applied with surveillance cameras that cover such large areas as airports or traffic intersections.

Key features of these technologies are as follows:

1. Creates images with fine details when highly magnified

These technologies create a library of images for subjects that are used to carry out super-resolution processing of images. In order to deal with subjects with different sizes, the library stores images with a variety of resolutions, and the best resolution images are automatically selected.

2. Small size image library data

A small size image library of data that can be deployed with a variety of equipment is created from a large set of image data. Redundant [images](#) are quickly eliminated from the library, which makes the library as small as possible without affecting image quality.

Looking forward, NEC aims to expand the use of these technologies into a broad range of fields, including the enhancement of satellite and [medical images](#), as the company actively promotes development of technologies that contribute to the safety and security of daily lives.

Provided by NEC Corporation

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