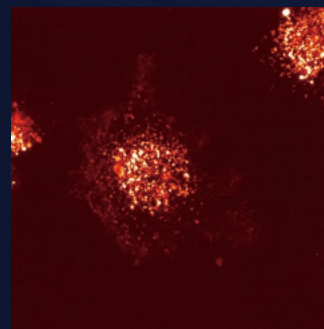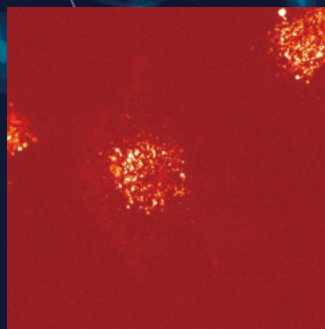# Automated cell extraction technologies utilizing Deep Learning

NIS.ai

- ■ High S/N automatic noise removal
- ■ High-speed cell recognition and extraction
- ■ Non-invasive measurement of label-free cells
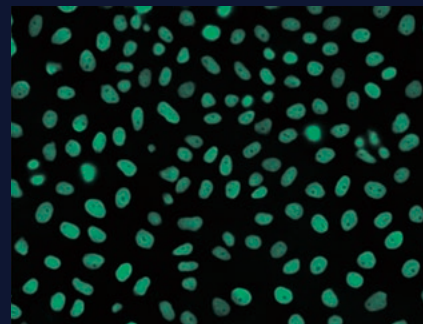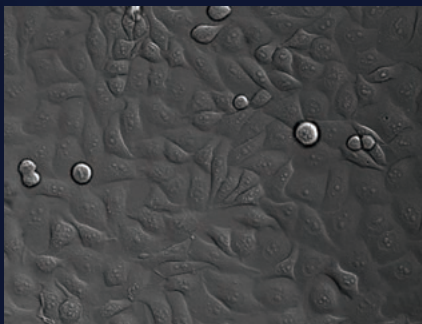- ■ Results as anticipated, brought about by deep learning

Solutions tailored to your application

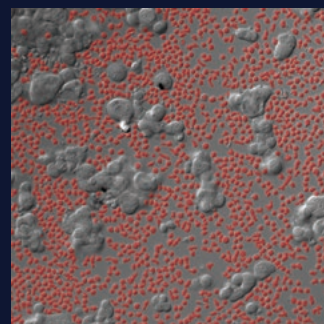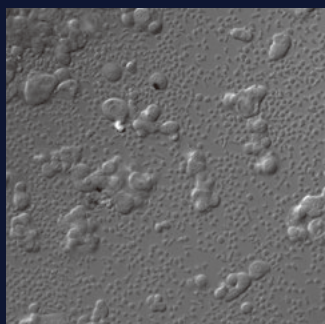### Enhance.ai Automatic noise removal

High S/N imaging with short/weak excitation

Convert.ai Non-invasive cell counting

Low phototoxicity cell detection with unstained samples
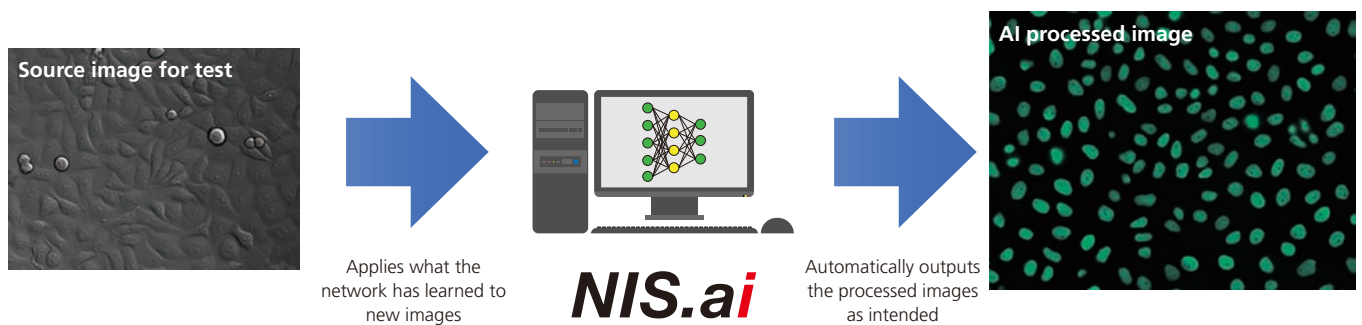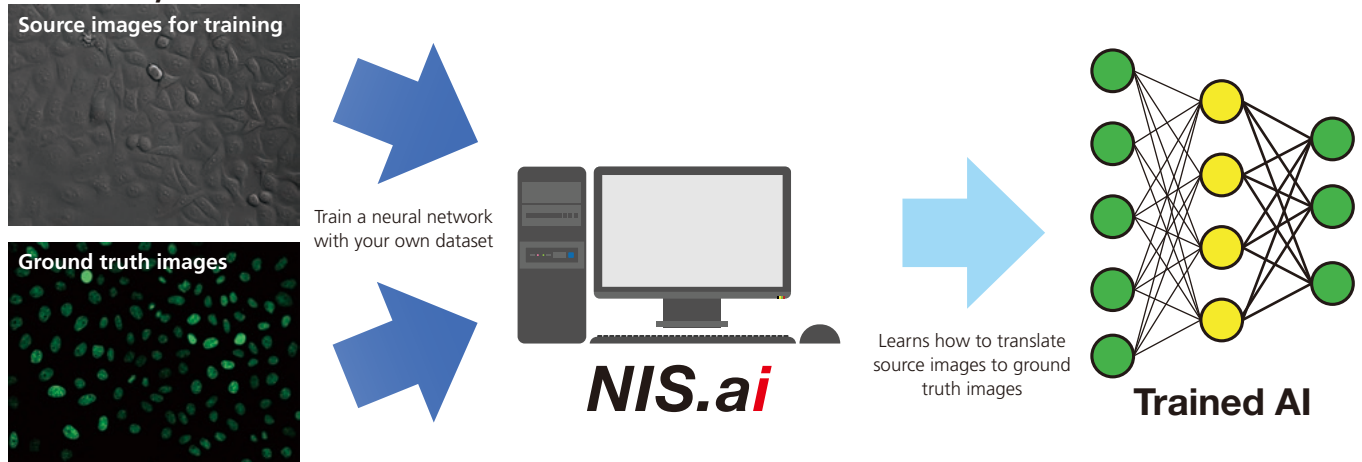
Segment.ai Customized object classification

Extraction of only the segments specified

Artificial intelligence: bringing a breakthrough to cell analysis

NIS.ai is an add-on module of NIS-Elements that enables tailored, "Only for Your Application", auto image processing/analysis, utilizing a deep learning model. By simply training the network with your own dataset for cells or noise you want it to recognize, the NIS.ai automatically extracts objects from new images by reasoning and by understanding the regularity of the dataset on its own. It requires no explicit instructions by the user.

Conventional cell extraction and noise removal requires huge amounts of time and effort, and results in inevitable photobleaching due to excitation light. There is also the problem of damage to samples caused by fluorescent staining. NIS.ai reduces variations in accuracy due to differences in the skill level of operators, and realizes high-speed, low-invasive cell analysis that matches the user's specific applications.

Train once, use thousands of times

Source images for training

Ground truth images

Train a neural network with your own dataset

NIS.ai

Learns how to translate source images to ground truth images

Trained AI

Source image for test

Applies what the network has learned to new images

NIS.ai

Automatically outputs the processed images as intended

AI processed image

Enhancing the efficiency of automated analysis

NIS.ai can be used with the GA analysis automation option, and enables high-speed and stress-free workflows such as processing, measurement, and analysis of images, and data output.