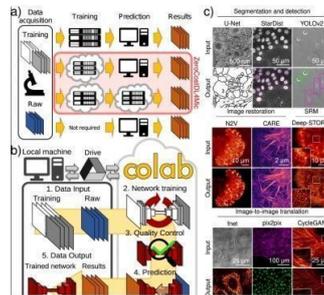## AI for Microscopy Images

Analysing microscopy images has just become easier with a new, freely available artificial intelligence platform.

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Modern microscopy allows for acquisition of thousands of digital images, and AI can help process these massive samples to gain meaningful data.

A team of researchers from Finland and Portugal have leveraged the resources of Google Colab to deploy deep learning (DL) methods for microscopy images analysis. They developed an easy-to-use platform, ZeroCostDL4Mic, that allows non-expert researchers to train and apply DL networks to various tasks related to image analysis.

They tested the model's performance on tasks such as image segmentation, object detection, image denoising and restoration as well as super-resolution microscopy and image-to-image translation.

The advantages of the platform include the use of a free, cloud-based platform. In addition, its user-friendly graphical interface does not require any coding skills from the user, with all the tasks being performed in a browser.

According to the researchers, some of the potential applications for and benefits of ZeroCostDL4Mic include:

- Prototyping image-analysis workflows and pipelines without financial investment.
- Executing small-to-medium-size projects (up to 20 GB of data).
- Short-term projects not requiring a permanent investment in DL infrastructure.

The authors also highlight that thanks to its user-friendliness the model can attract non-expert researchers and students to try and learn about DL methods.

ZeroCostDL4Mic is available on GitHub.

Source: Åbo Akademi University

Image credit: von Chamier et al. (2021)

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