News Release

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Deep Learning Streamlines Industrial Image Analysis for Material Inspections

OLYMPUS Stream™ software's AI offers accurate and automated image segmentation

WALTHAM, Mass., (July 27, 2021) OLYMPUS Stream™ image analysis software now leverages the power of artificial intelligence to bring next-generation image segmentation to industrial microscope inspections. Software version 2.5 adds Olympus' TruAI™ deep-learning technology, enabling users to train neural networks to automatically segment and classify objects in microscope images for a range of material inspections. A trained network can be applied to future analyses for a similar application to maximize efficiency.

Accurate Image Segmentation

Image analysis is a critical part of many material science, industrial and quality assurance applications. However, image segmentation using conventional thresholding methods that depend on HSV or RGB color spaces can miss critical information or targets in samples. Olympus' TruAI technology offers more accurate segmentation based on deep learning for a highly reproducible and robust analysis.

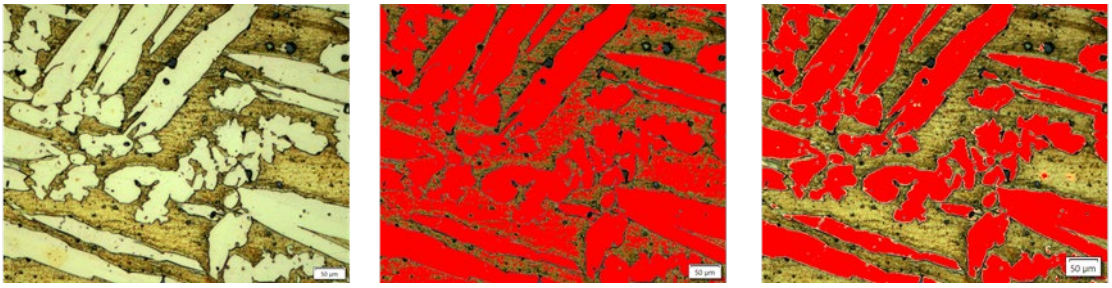

Image caption: Multiphase analysis of composite materials is a typical industrial image analysis application using deep-learning technology. After deep-learning image segmentation with OLYMPUS Stream software version 2.5, different phases can be distinguished and detected accurately. Combined with the software's Count and Measure solution, users can easily obtain repeatable and quantitative results. Left: original image of etched copper. Middle: image segmentation using conventional thresholding methods. Right: deep-learning image segmentation.

Easily Train and Manage Neural Networks

With the TruAI solution, users can easily train robust neural networks. An easy-to-use interface lets users efficiently label images and run trainings in batches. Networks can be configured with many input channels, trained to identify up to 16 classes, and imported or exported. The solution also offers options to review and edit training details.

Customized User Workflows

The software update also gives all users access to Olympus' workflow customization services. This team designs tailor-made OLYMPUS Stream workflows to address user-specific application scenarios, challenges, and goals.

Update to OLYMPUS Stream Software Version 2.5

OLYMPUS Stream v. 2.4 customers may use their existing license for a free update to software version 2.5.

For more information about OLYMPUS Stream image analysis software, visit Olympus-IMS.com/Microscope/Stream2.

About Olympus

Olympus is passionate about creating customer-driven solutions for the medical, life sciences and industrial equipment industries. For more than 100 years, Olympus has focused on making people's lives healthier, safer and more fulfilling by helping to detect, prevent and treat disease; furthering scientific research; and ensuring public safety.

Olympus' Industrial Solutions range from industrial microscopes and videoscopes to nondestructive testing technology and X-ray analyzers. These products are widely used for quality control, inspection and measurement applications. Serving customers in fields such as manufacturing, maintenance, and environment and natural resources, Olympus technology contributes to the quality of products and adds to the safety of industrial infrastructure and facilities. For more information, visit Olympus-IMS.com.