

COGNEX DEEP LEARNING

Vision systems and software designed specifically for Life Sciences

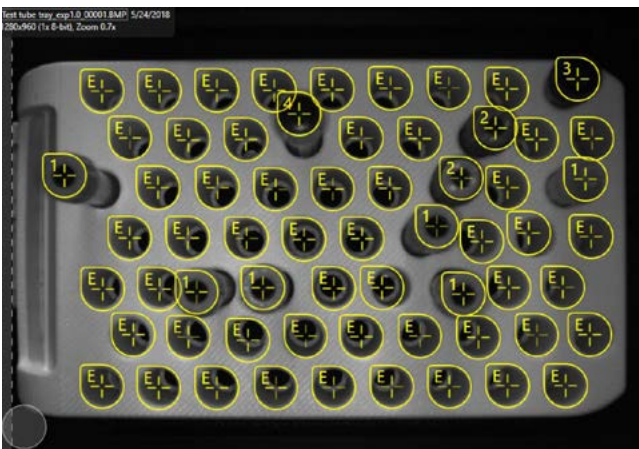
- Automated detection, inspection and classification
- Human-like flexibility
- Self-learning
- Powerful



Cognex Deep Learning is the first deep learning-based image analysis software designed specifically for a wide range of Life Science applications. It is a field-tested, optimized, and reliable hardware and software solution based on a state-of-the-art set of machine learning algorithms. Cognex Deep Learning solves complex applications that are too difficult to program and maintain using traditional machine vision systems. Cognex Deep Learning technology consists of four different tools:

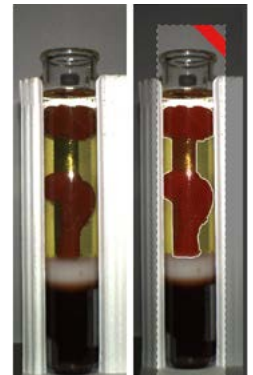
Feature location & verification

The part location and assembly verification tool finds complex features and objects by learning from annotated images. Self-learning algorithms locate different types of vessels (e.g. labware) on very noisy backgrounds or other complex objects in bulk. To train the tool, all you need to provide are images where the targeted features are marked.



Defect detection & segmentation

The defect detection tool is used to detect anomalies or defects. Be it contamination in blood samples (clot), incomplete or improper centrifugation, or even sample quality management based on scoring of different indices (e.g. Hemoglobin, Bilirubin, Intralipid etc.), the tool can be trained to identify all of these and many more problems simply by learning the normal appearance of an object including its significant but tolerable variations.



The defect detection tool can also segment other areas of interest, including buffy coat inspection of a blood sample or defect inspections on sample vessels, simply by learning the varying appearance of the targeted zone.

Object & scene classification

The classification tool can sort or label an object or a complete scene. Be it the classification of different test tubes or the separation of acceptable or unacceptable defects, this tool learns to separate different classes based on a collection of labeled images. To train the classification tool, all you need to provide are images assigned to and labeled in accordance with the different classes.



Text & character reading

The optical character recognition (OCR) tool deciphers badly deformed, skewed, and poorly etched codes. The pre-trained font library reads most text out of the box and minimizes training steps for fast, easy implementation. This robust tool can be retrained to adjust to specific OCR application requirements—no vision expertise required.



Cognex Deep Learning Solutions



In-Sight ViDi

In-Sight® ViDi™ deep learning applications are deployed on the In-Sight D900 smart camera without the need for a PC, making deep learning technology accessible to non-programmers. It uses the familiar and easy-to-use In-Sight software platform which simplifies application development and factory integration.

VisionPro Deep Learning

VisionPro® Deep Learning software combines a comprehensive machine vision tool library with advanced deep learning tools inside a common development and deployment framework. It simplifies the development of highly variable vision applications and allows engineers to build flexible, highly customized deep learning solutions tailored to their specific needs.

COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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