

DEEP LEARNING MACHINE VISION SOLUTIONS

In-Sight D900 Vision System

The In-Sight® D900 is a vision system powered by In-Sight ViDi™ software designed specifically to run deep learning applications. This embedded solution helps factory automation customers easily solve challenging OCR, assembly verification, and defect detection applications that are often too difficult to deploy with traditional, rule-based machine vision tools and require reliable, fast and consistent results not possible with human inspection.

In-Sight ViDi 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.

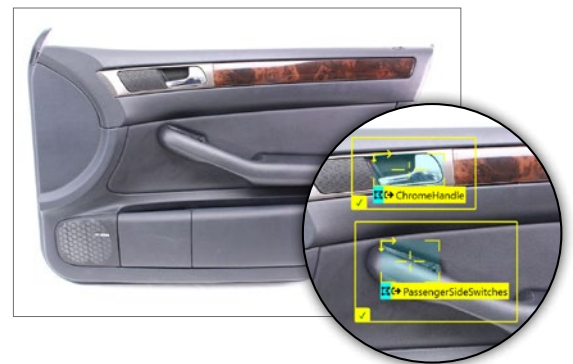


In-Sight ViDi Read tool solves challenging OCR applications in minutes

The In-Sight D900 deciphers badly deformed, skewed, and poorly etched codes using optical character recognition (OCR). The In-Sight ViDi Read tool works right out of the box, dramatically reducing development time, thanks to the deep learning pretrained font library. Simply define the region of interest and set the character size. In situations where new characters are introduced, this robust tool can be retrained to read application-specific characters that traditional OCR tools are not able to decode.

In-Sight ViDi Check tool performs fast and accurate assembly verification

The In-Sight D900 reliably detects complex features and objects and verifies parts and kits are assembled correctly based on their location within a user-defined layout. The In-Sight ViDi Check tool can be trained to create an extensive library of components, which can be located in the image even if they appear at different angles or vary in size.



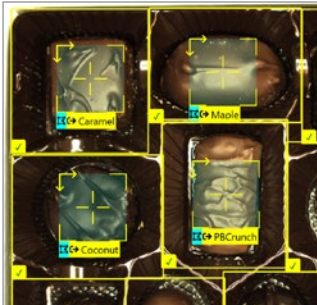
In-Sight ViDi Detect tool analyzes complex defect detection tasks

The In-Sight ViDi Detect tool learns from images of good parts in order to identify defective parts. In-Sight ViDi Detect is ideal for finding anomalies on complex parts and surfaces, even in situations where defects can be unpredictable in their appearance.

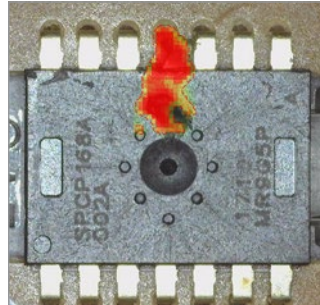
VisionPro Deep Learning Software

VisionPro® Deep Learning is the best-in-class deep learning-based image analysis software designed for factory automation. Its field-tested algorithms are optimized specifically for machine vision, with a graphical user interface that simplifies neural network training without compromising performance. VisionPro Deep Learning solves complex applications that are too challenging for traditional machine vision, while providing a consistency and speed that aren't possible with human inspection. When combined with VisionPro's rule-based vision libraries, automation engineers can easily choose the best the tool for the task at hand.

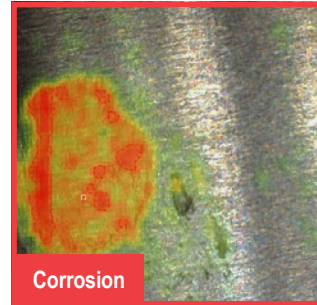
Part location and assembly verification



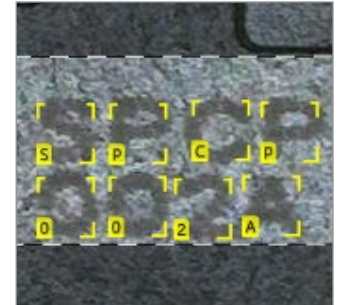
Defect detection



Object and scene classification



Character reading



Intuitive graphical training

VisionPro Deep Learning's graphical training interface simplifies the task of collecting images, training the neural network, and testing it on a variety of image sets. The unique tool-chaining capability lets users break down their problem into smaller steps, making it easier to optimize and requiring fewer training images.

Simplified integration in a common environment

Users can take advantage of the extensive selection of traditional machine vision tools alongside innovative deep learning tools. VisionPro Deep Learning provides access to deep learning toolsets through programmatic integration, as well as through the Cognex Designer™ graphical development interface. From low-level machine integration to deploying an application-specific HMI using Cognex Designer, VisionPro Deep Learning provides flexibility in how you develop and integrate the vision inspection to your production environment.

Deep learning toolset

VisionPro Deep Learning tools are trained by example, unlike traditional rule-based vision algorithms. These tools are optimized for factory automation vision inspections and require smaller image sets for quicker training. The user-friendly GUI also provides a simple environment to manage and develop your applications. Choose between Blue Locate, Red Analyze, Green Classify, and Blue Read tools to solve applications that are too complex for traditional rule-based machine vision approaches.

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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