SOLOMON

Vision with Intelligence

SolVision
AI Solution for
One-Stop Visual Inspections

Solvision
AI Solution for Advanced Defect Recognition

As a leading manufacturer of AI and 3D vision solutions, SOLOMON has provided services to wide-ranging industries across the world, assisting manufacturers to optimize production processes and improve yield.

SOLOMON has innovatively launched the "Solvision" intelligent inspection solution that integrates AI technology with comprehensive functions of recognition, positioning, grouping/classification, optical character recognition, and counting.

▌ Seven Product Advantages

Superior Recognition

With comprehensive interface functions, Solvision adopts an advanced neural network that can continuously accumulate learning experience and modify the AI detection model to improve detection rates over time.

Few Learning Samples Required

Solvision's built-in "Data Augmentation" tool is used to increase the AI training database, implementing training functions such as rotation, scaling, resolution reduction, or brightness adjustments to enhance the stability and recognition capability of the AI model—requiring just a few image samples for learning.

User-Friendly Interface

A programming-free AI vision software, Solvision provides an intuitive, graphical interface with built-in tools of "Auto Labeling", "Data Augmentation" and "Data Analysis" that can easily perform feature search, extraction, and classification. The Auto Labeling tool allows users to mark complex features and shapes efficiently.

Comprehensive Functions

Solvision provides four supervised and unsupervised detection tools—Feature Detection, Instance Segmentation, Classification, and Anomaly Detection—that enable the AI to learn from labeled image samples to perform defect recognition, feature positioning, object classification, optical character recognition, and measurement.

High Detection Speed

Under the same graphics card standard, Solvision improves the detection speed of unrecognizable fonts by AOI at a high speed of 10ms, which is better than the average industrial speed of 30ms. Solvision uses multiple GPUs and graphics cards to disperse the AI computing load, accelerating the recognition speed of small defects in a large visual field and maintaining the detection consistency.

Complete Report

Solvision has an interactive Confusion Matrix, a two-dimensional array that analyzes the AI model's inspection capabilities, and provides an interactive interface that can speed up the time searching for wrong images, greatly improving operational convenience.

Easy Integration

Solvision can be quickly connected to a system or device without extensive manual effort. The inspection results and object positions are output through the TCP/IP communication interface, which can be sent to PLC or various branded arm controllers in real-time. Concurrently, it integrates third-party programs such as LabView, Visual Studio C#, C++, etc., to achieve data acquisition and production line operation upgrades.

Why SolVision over traditional vision systems?

1. Significantly shorter hardware evaluation and design time
2. Saves time from developing algorithms
3. More flexible and advanced detection capabilities
4. Eliminate the need for manual re-inspection(ADC)
5. Substantially reduce costs of inspection hardware
6. Save costs from algorithm development

Semiconductor Industry Applications

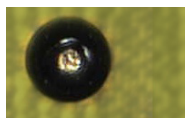### Sliced Wafer Microcrack Detection

NG
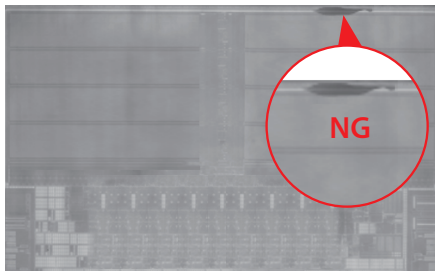
Inspection for DIE Positioning

- Angle offset: 0.2 degrees
- Angle offset: 1.92 degrees

| OK | NG |

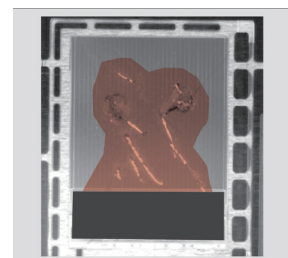### Automatic Defect Classification
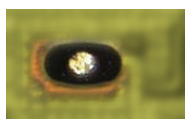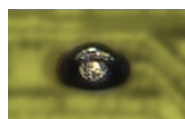
| OK | NG |
| OK | NG |

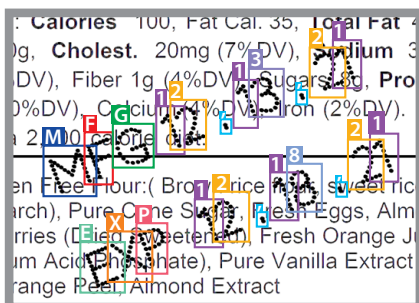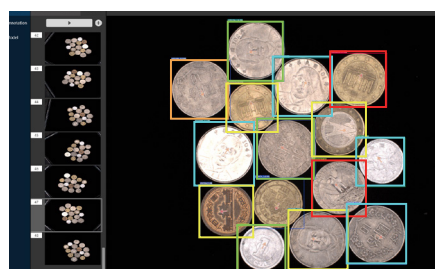### Unsupervised Learning Inspection
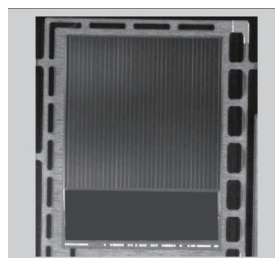
| OK | NG |

Manufacturing Industry Applications

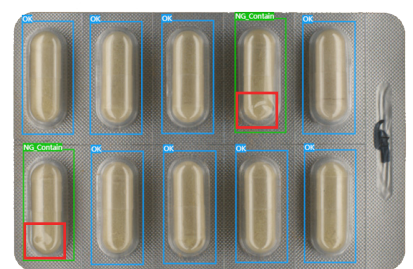### Background Interference and Deformed Letters OCR

Accurate Detection of Reflective Surfaces

Coin Sorting and Counting

Push-through-package Inspection
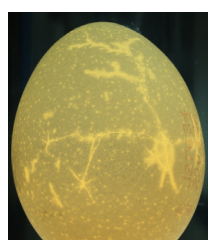

Agricultural and Livestock Industry Applications
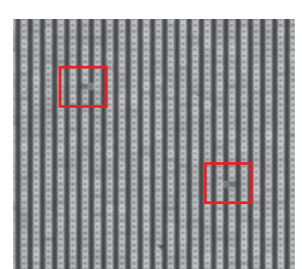
Eggshell Grading

| Level 1 | Level 2 | Level 3 |

Display Device Applications

Quality Grading

NG

Defect Inspection

Hardware Requirements

Module Name	SLM VISAI-S100
Operating System	Windows 10 (64bit)
CPU	Minimum : Intel Core i5 / Recommended : Intel Core i7
GPU	Minimum : Nvidia RTX 1070 (RAM : 8GB) / Recommended : Nvidia RTX 3080 Ti
RAM	Minimum : 16GB / Recommended : 32GB
Output Interface	TCP / IP, Modbus TCP
Coding Interface	Minimum : .Net framework 4.5.2
Coding Language	Microsfot Visual Studio C #, C ++, VB.NET
Compatible With	NI LabVIEW 64 bits, Label Me
Language	English
Image Format	PNG, BMP, JPG, JPEG, JPE, JFIF, TIF, TIFF

● Specifications subjects to change without notice.

AccuPick

reddot winner 2020
best of the best interface design

Vision*Systems* DESIGN
2019 **Innovators Awards**
GOLD

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Everyday Excellence