



HALCON

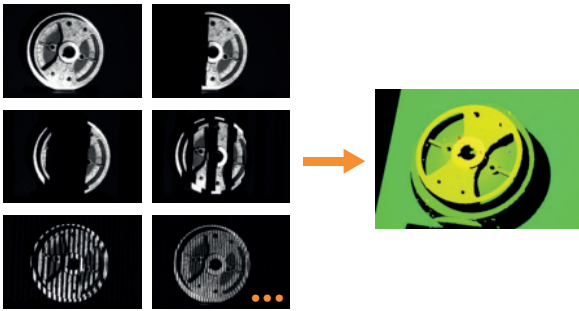
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**BENEFIT FROM SHORT
RELEASE CYCLES WITH
HALCON PROGRESS**

EN

**NEW
VERSION
23.11**

New features in HALCON 23.11



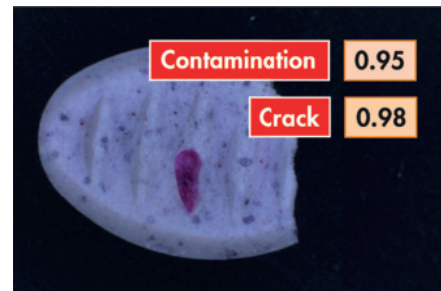
Create highly accurate 3D reconstructions with a pattern projector and a 2D camera.

STRUCTURED LIGHT 3D RECONSTRUCTION

In HALCON 23.11, the structured light model has been enhanced: Besides deflectometry, it now also provides precise 3D reconstruction for diffuse surfaces in short cycle times. This enhancement gives users the flexibility to develop their own application-specific 3D reconstruction systems using a pattern projector and a 2D camera. The feature is particularly suitable for applications where precise spatial representations are required. As a result, the technology is suitable for the optimization of manufacturing processes, quality control, and the precise measurement of various surfaces.

MULTI-LABEL CLASSIFICATION

In the new HALCON version, customers now have access to multi-label classification, a new deep learning method that allows the recognition of multiple different classes for a single image. Such classes can encompass various properties of the objects within the image, for example defect types, color, or structure. In practice, this method can, for instance, reveal the presence of different types of defects in an image, allowing a more detailed classification. Compared to other methods, this deep learning method is faster in processing and the effort for labeling is also lower.



Detect multiple defects simultaneously with the new multi-label classification.

MVTEC LICENSE SERVER CLOUD READY

With HALCON 23.11, customers have an additional "cloud-ready" variant of the license server at their disposal. This now makes it possible to license HALCON in the environments of commercial cloud providers as well as in enterprise-owned cloud setups without the need for hardware, solely through a network connection. This means that HALCON can now be easily licensed across all cloud solutions. By using HALCON in the cloud, customers can easily benefit from the new possibilities offered by machine vision in the cloud.



FURTHER IMPROVEMENTS

In HALCON 23.11, a number of improvements for existing methods and technologies were implemented. For Global Context Anomaly Detection, a method for detecting complex anomalies, the underlying neural network has been further optimized. This improves the accuracy of anomaly detection without increasing hardware requirements or execution time.

In addition, HALCON now utilizes the latest NVIDIA® CUDA® toolkit. This provides users with the opportunity to choose from an even greater range of AI accelerators. For example, the new NVIDIA Jetson Orin™ modules are now supported as well.

Finally, several performance optimizations of HALCON's core technologies have been implemented in HALCON 23.11. For example, template matching operators (NCC Matching) now run up to 80% faster on Arm-based systems.

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