Smallest, Fastest, Most Affordable Trainable Vision Device (Reference Design)

COGNIMEM INSIDE

MTVS

Identifying Matching Finding
Unique, Versatile...

The CogniMem-MTVS stands out, thanks to its unique features:

- Easy to capture images
- Easy to train
- Easy to run
- Easy to collect results
- Easy to learn more

A Multi-faceted technology!

- Give quick fail/pass feedback
- Assess good/bad state
- Provide classification
- Identify target
- Verify alignment
- More to come...

Capture References

Use the high speed USB link to collect images in the operating environment.

Training

In Easy Video Trainer™, our proprietary tool, define the region of interest, show just a few examples to start recognizing your objects. For example, show a good quality object and that should be enough to start detecting defects of all size in the product to inspect. You can also categorize objects and then let MTVS tell them apart. Whether you’re trying to detect defects or recognize specific elements, you can save your knowledge in no time and then transfer it to MTVS for real-time inspection. Increase your productivity: share your expertise without having to write a line of code.

Operational Conditions

MTVS can inspect virtually any parts. It clearly identifies defective parts with clear graphics. It can detect defects even on reflective surfaces. Once you are satisfied with the training of MTVS and the accuracy of the recognition seen on the Easy Video Trainer screen, you can activate the use of the MTVS I/O lines and RS485 communication to interface directly with actuators and other applications. At this point, MTVS can be disconnected from the PC (provided that it is connected to an external power supply) and inspect autonomously. It will resume inspection at power-up.
Many Applications...

- Part Inspection
- Model Identification
- Classification
- Quality Check
- Defect Detection
- Label Check
- Object Tracking

MTVS is a production-efficient solution that allows saving on the inspection costs in many ways:

- Low-power consumption
- No pc needed
- Higher pace and higher accuracy than human inspection
- Flexibility in the lighting environment
- On-site fine adjustment

- Face Recognition
- Conformity Verification
- Condition Monitoring
- Event Detection
- Surface Inspection
- Alignment / Positioning
Specifications

**MECHANICAL**
- Dimensions: 30mm x 30mm x 60 mm
- Weight: 50g

**POWER**
- Voltage: 6-36 VDC - 3/4 W

**ACCESSORIES (optional)**
- Tripod / DIN Rail Mounting / Lens Mount

**SOFTWARE**
- Easy Video Trainer with Single Region of Interest
- Windows SDK (Optional)

**IMAGE**
- Resolution: 752x480 (pixels), monochrome
- Sensor: progressive scan
- Acquisition: 60fps
- Recognition: 60fps

**COMPONENTS**
- CogniMem, 1024 neuron chip
- CogniSight, recognition engine chip
- Aptina CMOS Sensor - MT9V022, Global Shutter
- Lens Field of View Angle - 60°

**COMMUNICATIONS**
- I2C SCK
- I2C SDA
- Trigger IN
- Data-RS485 Ch.A
- Data-RS485 Ch.B
- Data+RS485 Ch.B
- Data+RS485 Ch.A
- GND
- VDC 6-36 Volts < 1 Watt
- Data-RS485 Ch.B

**REFERENCE DESIGN AVAILABLE - LICENSE AVAILABLE**

**RECOGNITION FACTS**
- Recognition Rate: one region per frame at 60fps
- Region Size: 16x16 to full frame
- Associative Recognition: up to 1024 models
- Knowledge: built by examples

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