# WIZER INTUIT MACHINE LEARNING

Wizer Intuit is a self-learning machine vision software, which was developed from a hybrid of machine vision and artificial intelligence. Utilising its unique approach, this software combination is able to solve complex defects inspection.

Good products or images are used to carry out the learning/training process.



**Key Features:**
o Quick and simple setup, adjustment and operation
o Accurate identify defects consistently
o Fast training speed of ~10s to train 50 good images
o A common platform software for different applications

**AI Learning Method**
The standard neural algorithm will need lots of data for improved processing. Wizer Intuit only require a small group of good products (about 100pcs) to achieve strong results quickly.

As good products or images are used to carry out the learning process. It significantly reduces the development time taken to create a solution, as compared to traditional Machine Vision and deep learning approach.
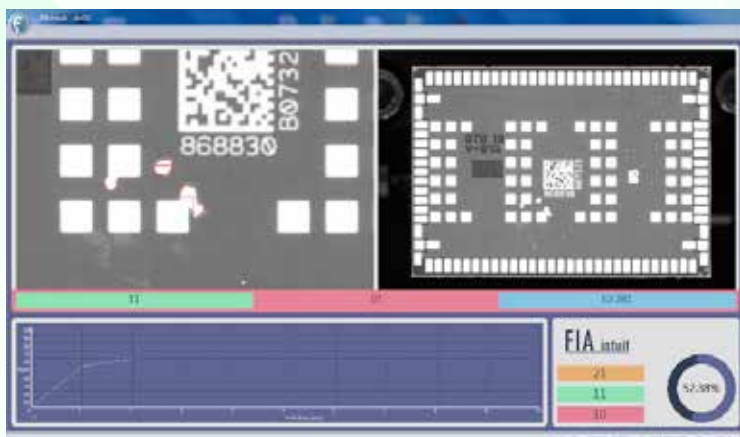


PCB Inspection



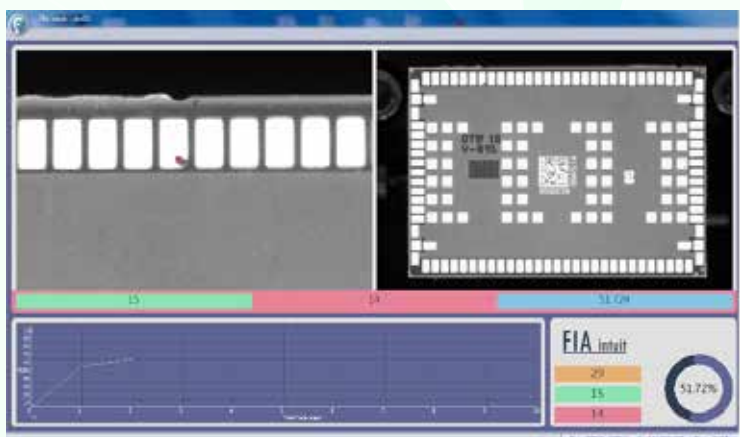Metal Part Inspection



Disc Inspection

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Wizer Intuit provides a viable solution for defect inspection for applications to meet its design rules. With traditional Machine Vision, the inspection capability can potentially be enhanced even further.



**Defects Screening**, after the software learning process is completed, adjustment will only be needed for the strength & size tolerances.

**Yield Monitoring**, many data can be ollected for reporting purposes to make prompt decision. This includes the time & period for collection, yield details, warning, etc.

**Illumination & Program Control**, the digital control of the illumination can be managed for different projects or product type. This will allow for auto change for the light intensity.

## Application Areas



**Metal Part Inspection**



**Semiconductor**



**Metal Casing Inspection**

# COMPARISON

| Description | Intuit (Machine Learning) | Deep Learning | Traditional Machine Vision |
|---|---|---|---|
| Defects Inspection | Standard | Standard | Customised |
| Inspection Accuracy | Yes, light defects can be found | Yes, but need enough data input | Obvious Defects |
| Software Complexity | Simple, 2 training tools & 3 setting parameters | Average (many training parameters) | Difficult |
| Skill Level for Use | Operators/Technician | Engineers | Engineers with skills |
| Set-up Time | Short | Medium | Long |
| Inspection Time (2MP) | 0.02 secs | 0.2 secs | 0.01 ~ 0.1 secs |
| Learning Method | 1 type | Many types | No |
| No. of Images Needed for Training | 30 ~ 100 | 30 ~ 3000 | No |
| Light Defects - Learning | Train good products only (set acceptance conditions) | Need to train different groups of defects type and need sufficient sample quantity | No |
| Graph Card (GPU) | No | Yes | No |
| Price | Medium | High | Low |
| Inspection for Product Shape Variation | No (need fixed shape & size) | Yes (wood grains, fruits, textile) | No |
| Defects Classification | No (ongoing development) | Yes | Yes (but complex) |
| Ease of Re-teach after Misjudgement | Simple (need to adjust inspection conditions, i.e. threshold & blob) | Difficult (depending on outcome, may need to re-train which is time consuming) | May need new tools/ functions to achieve outcome |
| Support for Different Defect Types | Can add unlimited regional conditions, and can be targeted for different region or categories | 1 learning recipe to handle full defects range, different to set parameters for different defect types | May need complex functions |
| Application Types | Defects Inspection | Defects inspection, classification, OCR | Measurement, count, alignment, inspection, absence/presence |

# CONTACT US

**Corporate Headquarter (Singapore)**
**Inspiraz Technology Pte Ltd**
**Blk 19, Kallang Avenue #06-163, Singapore 339410**

www.vizcam.net      +65 6297 0880      sales@inspiraz.com

**China Headquarter (Shanghai)**
启毅视觉科技(上海)有限公司
上海市静安区梅园路 228 号
(企业广场 ) 2618 室

**China Office (Shenzhen)**
深圳市南山区桃园路 1号
西海明珠大厦 F 座 11 楼 C13

www.inspiraz.cn      +86 021 5299 0181      sales@inspiraz.cn

**Korea Office (Seoul)**
**#1109, B Building 201**
**Songpa Gu Seoul, Korea 05854**

www.vizcam.co.kr      +82 2 2264 2563~5      sales@vizcam.co.kr

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