

AI Screening for Through-Hole Components Mounting

Benchtop Vision Setup for PCB Defect Detection



*Benchtop Vision Setup for PCB Defect Detection delivers AI-powered anomaly detection that **identifies assembly defects early, reducing rework and repair costs.***

Traditional automatic visual inspection in electronics manufacturing was the domain of surface-mount components only. Using components from the Intel Open Edge platform and running only on an Intel® Core™ Ultra Series 3 processor-based CPU, Decamath brings AI computer vision to through-hole components inspection.

Operators simply place a board under a camera in a purpose-built fixture and see a visualization highlighting any potential defects on the computer screen, such as missing or misoriented components, partially-inserted components and others.

Unlike traditional machine vision that relies on hard programmed rules which would struggle for such application, Decamath uses AI that is trained on the real appearance of “good” boards and can distinguish an anomaly even if it has been unseen previously.

Key Intel-Enabled Features



Lightweight
Edge Inference



Reliable
Inference Pipeline



Powerful Anomaly
Detection

- Running AI models on CPU without GPU.
- Inference pipeline built on [OpenVINO™ model server](#) and MediaPipe.
- Anomaly detection AI model development facilitated by [Anomalib](#).

By leveraging Intel® technologies, Benchtop Vision Setup for PCB Defect Detection by Decamath helps manufacturers detect through-hole component defects earlier, reducing rework, repair costs, and production delays.

intel ai
Intel® AI Edge Applications

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Country/Geo: Europe, Middle East, and Africa

Edge Verticals: Manufacturing & Energy

Edge Use Cases: Quality Control; Anomaly Detection; Quality Inspection

Learn more:

- [Decamath Website](#)