

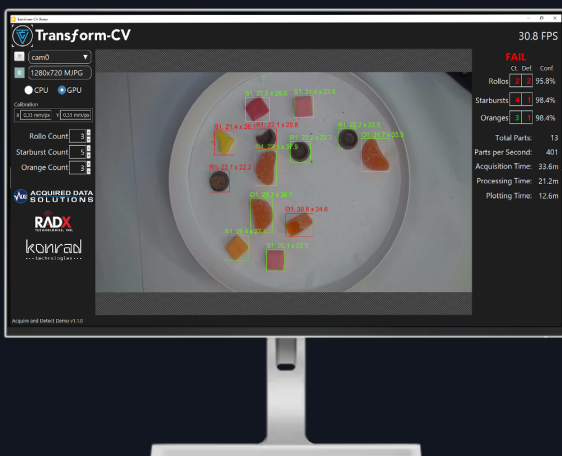
Transform-CV™

Cost-Effective, COTS, Deep Learning-Enabled Computer Vision Solution for Quality Assurance & Inspection Applications

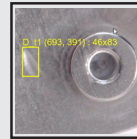
OVERVIEW

Transform-CV is a COTS turnkey, **deep learning**-based computer vision solution for manufacturing inspection and automation. Developed by **ADS** and **RADX Technologies**, it delivers real-time, high-accuracy image analysis for tasks like defect detection, measurement, and sorting - cutting costs and improving productivity.

Easily trained and compatible with standard hardware, Transform-CV runs on **PXIe** and **PCIe** platforms with **NVIDIA GPUs** under Windows or Linux. It offers seamless integration, fast deployment, and scalable performance across Quality Assurance applications.



APPLICATIONS



Real-Time Defect Analysis

Accurately & repeatably detect & classify a wide range of visible & microscopic defects on a variety of UUTs.



Real-Time Dimensional Analysis

Accurately and repeatably identify dimension features & defects that range in size from cms to microns.



Real-Time Component Classification

Accurately & repeatably verify the presence & location of specified components, labels, & other key assembly items.

BENEFITS



Performance & Repeatability

Faster throughput with superior accuracy & consistency vs. manual inspection.



Ease-of-Use

Intuitive interface & seamless integration with popular manufacturing software.



Flexible

Scalable COTS optics, AI, & GPU support for diverse applications & budgets.



Low TCO

COTS components & user-driven training cut costs vs. proprietary CV systems.

Let Us Work with You to See How We Can Adapt Transform-CV to Your Application!

11900 Parklawn Drive, Suite 205, Rockville MD 20852 | sales@acquiredata.com | www.acquiredata.com

HOW IT WORKS

Comparison of Transform-CV vs. Conventional Rule-based System for adding a new feature or defects. Traditional computer vision systems rely on rule-based deployment processes, which can b time-consuming and rigid. Transform-CV's training-based approach removes these barriers, enabling faster deployment and more adaptive quality assurance.

Transform-CV	VS.	Conventional Rule-based CV System
Quality Assurance Technician	 Expertise Required	CV Engineer or Vision System Expert
1. *Data Collection: acquire & annotate 500 images of the new DUT or feature at 2 min / image = 16 hours 2. Model Training: upload new dataset to existing model (automated process). 3. Testing & Refinement: test and iterate - repeat data collection if needed. *May vary by application.	 Process	1. Feature Engineering: modify programing script to extract new features = Days /Weeks 2. Rule Definition: program code, validate pass/fail criteria & test threshold, validate compatibility with unmodified code portions = Days/Weeks 3. Testing & Refinement: test & repeat steps 1 & 2 as needed.
Days / \$	 Time/Cost	Weeks / \$\$\$

SOFTWARE & HARDWARE

SOFTWARE

- ADS COTS Transform-CV License
- ADS Modified YoloV5 (or Later) Deep Learning Model Tailored for Customer Application
- PyTorch V1.13, 14 or Later Deep Learning Library
- PyQt V5.15.9 or LabVIEW GUI

HARDWARE

- PXle Chassis (NI PXle-1095 or PXle-1092)
- RADX NVIDIA-based Catalyst or Trifecta PXle GPU, PXle Data Storage Module if needed
- Monitor
- High-Frame Rate Camera with Interface Module
- Illuminator
- Turntable-based Assembly Line Emulator

OPTIONAL COMPONENTS

- Microscope or Optical Assembly
- Polarizing Light Filers
- Manual or Automated Fixture
- Robotic Motion Controls
- Additional options for specific customer applications

