Boost Industrial Productivity with Edge AI

Slash operational costs and open opportunities for increased profitability by bringing intelligence directly to where data is generated via edge AI.

Edge Impulse industrial applications:

- Detect appliance failures using sensor data like vibration, acoustic, and environmental to detect failure in machinery with anomaly detection algorithms
- Implement computer vision algorithms to automate the inspection process for capturing defects
- Use edge AI to digitize analog gauges and automate manual inspections
- Create lower cost sensing for manufacturing processes with sensor fusion
- Worker safety- detect accidents, ensure correct safety equipment is worn, detect machinery tampering

Anomaly Detection

Edge Impulse empowers you to build and deploy robust anomaly detection models for **audio**, time series (including **vibration** and **temperature**), and **images.**

FOMO™-AD (Faster Objects More Objects-Anomaly Detection), specifically optimized for visual inspection, leverages unsupervised learning techniques, eliminating the need for faulty data to be collected.

- Capable of processing image/video in real-time for immediate alerts
- Effectively distinguishes anomalies from normal variations to detect unanticipated defects
- Saves time on building datasets, and still have highly accurate anomaly detection

YOLO-Pro

YOLO-Pro model architecture is designed for industrial edge computer vision.

- First, custom-built object detection model trained with extensive industrial datasets for optimal performance in real-world industrial scenarios
- Better accuracy and efficiency for the types of problems that real businesses solve
- Fast and efficient on edge AI hardware including MCUs, CPUs, NPUs, and GPUs.

Use Cases and Case Studies

Safety: AI [automated hard hat detection](#) — The assessment and prevention of risks in the workplace remains the top priority approach. Reduce the number of serious injuries to the head by detecting the wearing of a hard hat.

Quality Control: An autoparts supplier to a major luxury brand developed an Anomaly Detection algorithm for the production and installation of a specific time of fender/trim clip, improving their QC processes while limiting their exposure to production line equipment damage, and downtime.

Smart Grid Monitoring: Izoelektro built one of the most [advanced power grid monitoring systems](#) in the world, designed to alleviate problems resulting from powerline failures.

Industrial Asset/[Pallet Tracking](#): Multiple industrial companies rely on tracking and managing the inventory of their products accurately. Automate the counting process of inventory with an automated, efficient pallet counting solution.

Elevate your industrial operations with cutting-edge AI.

Get Started Today.

EDGE IMPULSE