SERVICE GUIDE · 2026

Computer Vision

AI that sees, understands, and acts on what your cameras capture.

INSIDE THIS GUIDE

ENTRA AI

www.entra-ai.com
info@entra-ai.com
+44 2034 323178

WHAT IS COMPUTER VISION

AI that can see and understand

Computer Vision is AI that can **look at images and video and understand what's happening** — spotting defects, counting items, recognising people or objects, tracking movement, and turning what your cameras capture into useful, real-time business insight.

THINK OF IT LIKE THIS

Imagine hiring a tireless inspector who watches every camera, every product, and every shelf — around the clock — and instantly raises a flag the moment something needs your attention. That's what Computer Vision does, at scale, without breaks.

01 How It Works

A plain-English overview

Your Cameras Capture

Existing cameras, sensors, or uploaded images feed into the system — no special hardware required.

The AI Sees & Decides

It identifies objects, patterns, and changes in real time, applying the rules and goals you've defined.

You Get Insight

Alerts, dashboards, and reports are sent to the right people — instantly or on a schedule.

02 What It Can Actually Do

Real-world examples

Quality Control

Spot defects, missing components, or out-of-spec products on the production line — faster and more consistently than manual inspection.

Safety & Compliance

Detect missing PPE, unsafe behaviour, or restricted-area breaches — protecting your people and your liability.

Security Monitoring

Recognise unusual activity, unauthorised access, or suspicious patterns — alerting your team in real time.

Retail & Footfall Analytics

Count visitors, measure dwell times, and analyse customer flow to inform layout, staffing, and merchandising.

Inventory & Stock Tracking

Monitor shelf stock, warehouse levels, or asset locations automatically — replacing manual counts.

Agriculture & Field Monitoring

Crop, livestock, and field monitoring through drones or fixed cameras — tracking growth, stress, and yield indicators automatically.

INDUSTRY USE CASES

Real scenarios, real outcomes

Below are examples of how Computer Vision is being applied across different sectors and departments. Each one replaces hours of manual work or unlocks insight that was previously out of reach.

A Manufacturing & Operations

Tighter quality, faster throughput

Defect Detection

Cameras above the line spot scratches, misalignments, or missing parts in milliseconds — products are rejected automatically before they ship.

Assembly Verification

The system confirms every component is in place before the next step — flagging deviations to a supervisor with a clear photo.

Predictive Quality

Subtle visual patterns are tracked over time, surfacing early warning signs of equipment drift or material problems.

Worker Safety

Monitors PPE compliance, unsafe postures, and restricted zones — alerting supervisors before incidents happen.

B Retail, Logistics & Facilities

Smarter spaces, better decisions

Shelf Monitoring

Detects out-of-stock or misplaced products in real time, sending the right person a notification before customers notice.

Queue & Footfall Analytics

Measures customer numbers, dwell time, and queue lengths — informing staffing, layout, and operational decisions.

Vehicle & Asset Tracking

Number-plate recognition, container tracking, and gate monitoring — streamlining yard, fleet, and depot operations.

Building & Energy Insight

Detects occupancy and use patterns to optimise heating, lighting, and cleaning schedules across your facilities.

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Agriculture, Aquaculture & Land Use

Eyes on every field, herd, and harvest

Crop Health & Disease Detection

Drone and satellite imagery is analysed for early signs of disease, nutrient deficiency, or drought stress — letting growers treat problems before they spread across the field.

Weed & Pest Identification

Computer vision distinguishes crops from weeds in real time on sprayers and robots — enabling targeted spraying that cuts chemical use dramatically.

Soil & Land-Use Mapping

Aerial and satellite imagery is classified into soil types, land cover, and crop boundaries — feeding into precision agriculture and sustainability reporting.

Greenhouse & Vertical Farming

Indoor cameras track plant growth stages, leaf colour, and structural health continuously — driving automated climate, lighting, and irrigation adjustments.

Yield Estimation & Forecasting

Counting fruit, ears, or plant density from imagery to predict yield weeks before harvest — supporting commercial planning, pricing, and logistics decisions.

Livestock Monitoring

Cameras over barns, paddocks, and feed stations track animal counts, behaviour, lameness, body condition, and oestrus cycles — without disturbing the animals.

Aquaculture & Fisheries

Underwater cameras count fish, estimate biomass, detect disease, and monitor feeding — improving stock management and animal welfare in fish farms.

Agricultural Robotics

Vision systems guide autonomous tractors, harvesters, and pickers through fields and orchards — enabling labour-light operations at scale.

A CLOSER LOOK

How Computer Vision actually works

Every Computer Vision system follows a similar pipeline — from raw pixels coming off a camera to a clear, actionable insight reaching the right person.

1. Capture

Images or video frames are collected from cameras, drones, microscopes, or uploaded files — in real time or on a schedule.

2. Preparation

Frames are cleaned, normalised, and prepared — adjusting for lighting, angle, and quality variations.

3. Detection

The AI scans each frame and identifies objects, regions, or events it has been trained to recognise.

4. Interpretation

Detected items are checked against your business rules — is this a defect, a safety issue, a stock-out?

5. Decision

The system decides what to do — record, alert, log to a dashboard, or trigger a downstream action.

6. Learning

Edge cases and corrections are captured and used to retrain the model — making it more accurate over time.

VISION APPROACHES

Choosing the right approach for the job

Computer Vision is a family of techniques, not a single thing. Different problems need different approaches — and the choices we make about model type, where it runs, and how it learns shape the system's accuracy, speed, and cost. Here's how we think about those choices for you.

D Types of Vision Models

Different tools for different questions

Classification

Answers: "What is this?" The model assigns the whole image to a category — useful for sorting, identifying species, or labelling product photos.

Object Detection

Answers: "What's in this image and where?" The model draws boxes around each object it finds — used for counting, tracking, and locating items.

Segmentation

Answers: "Which pixels belong to what?" The model precisely outlines each object — essential for medical imaging, agriculture, and quality work.

Pose & Tracking

Answers: "What is moving and how?" The model follows people, animals, or objects across frames — used for behaviour analysis and safety monitoring.

Anomaly Detection

Answers: "What's different?" The model learns what 'normal' looks like and flags anything that doesn't fit — powerful for quality and security work.

Optical Character Recognition

Answers: "What does it say?" The model reads text from labels, screens, or handwritten notes — useful for data capture and verification.

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Where the AI Runs & How It Learns

Architecture choices that shape cost, speed, and quality

Edge Deployment

Runs on a small device next to the camera — fast, private, works offline. Best when latency matters or bandwidth is limited (manufacturing lines, vehicles, remote sites).

Cloud Deployment

Centralised processing in the cloud — easier to scale, manage, and update. Best when you have many cameras across sites and need a unified view.

Hybrid Edge + Cloud

Edge devices handle real-time decisions; the cloud handles aggregation, analytics, and retraining. Combines responsiveness with centralised intelligence.

Pretrained Foundation Models

Large models trained on millions of images, fine-tuned on your specific data. Faster to deploy and surprisingly capable on most general visual tasks.

Custom Trained Models

Built from scratch on your data when the problem is unusual or accuracy needs are extreme. More effort, but unbeatable for specialised use cases.

Active Learning Loops

The system flags uncertain cases for human review, learns from the corrections, and steadily improves — making accuracy compound over time.

06 What We Build For You

The key components of your system

Detection & Classification Models

AI trained to recognise the specific objects, defects, or events that matter to your business — tailored to your data.

Real-Time Processing

Systems that analyse live camera feeds with low latency, so decisions and alerts happen in the moment.

Edge or Cloud Deployment

Runs on-site on small devices for instant response, or in the cloud for centralised analysis — whichever fits.

Dashboards & Alerts

Clear visual interfaces, scheduled reports, and instant notifications routed to the right person, channel, or system.

Existing-System Integration

Connects to your CCTV, production systems, inventory tools, and reporting platforms — no rip-and-replace required.

Annotation & Training Pipelines

We set up the process to retrain and improve the system as your products, processes, or environment evolve.

07 Oversight, Governance & Responsible AI

Built-in accountability — always included

Full Visibility

See exactly what your Computer Vision system is doing — every action, decision, and outcome — through a clear activity log.

Guardrails & Boundaries

Clear rules for what your system can and cannot do. Sensitive actions always require human sign-off.

Audit Trails

Every action recorded with timestamp and reason — a searchable record for compliance and review.

Ongoing Monitoring

We monitor performance over time, flagging anything unusual and ensuring continued accuracy.

Continuous Improvement

Your system gets better over time. We review outcomes, identify improvements, and update it.

Data Privacy & Security

Your data stays yours. We follow rigorous practices and work within your security policies.

08 Hosting & Deployment

We handle the technical side — you focus on the results

Once your Computer Vision system is built, it needs somewhere to live and run reliably. We take care of all of that for you.

Cloud Hosting

Hosted on secure, enterprise-grade cloud infrastructure. Your Computer Vision runs 24/7, scales with usage, maintained by our team.

On Your Own Systems

If data must stay on-premises for compliance or security, we deploy your system entirely within your environment.

Hybrid Setup

Hybrid deployments combining cloud convenience with on-site control, tailored to your requirements.

Ongoing Management

Managed packages include monitoring, updates, performance tuning, and ongoing support as your system matures.

09 Consulting & Advisory

We help you figure out what you actually need

Not sure where to start? Most organisations know Computer Vision could help — but not where, how, or what to prioritise. We work through that with you honestly, without jargon.

Discovery & Scoping

We understand your operations, challenges, and goals — then identify where Computer Vision delivers the most value first.

Feasibility & Risk Assessment

An honest view of what's achievable, the risks involved, and a realistic timeline. No overpromising, no jargon.

Roadmap Planning

A phased plan — starting with a focused pilot that delivers early results, then expanding as confidence and ROI grow.

Stakeholder Alignment

We help communicate the plan internally — leadership, operations, compliance, IT — with materials for non-technical audiences.

10 Training & Adoption Support

Making sure your team feels confident

The best system only creates value if your team knows how to use it, trust it, and get the most from it. We provide tailored training and support to make adoption smooth.

- **Team Onboarding**
  Practical, jargon-free sessions for people working alongside the Computer Vision system every day — what it does and when to step in.
- **Leadership Briefings**
  Focused sessions for senior stakeholders covering outcomes, governance, risk, and measuring success.
- **User Guides & Playbooks**
  Clear, plain-English documentation tailored to your system — a reliable reference whenever your team needs it.
- **Ongoing Support**
  As confidence grows and workflows evolve, we're available for follow-up sessions, Q&A;, and improvements.

11 Our Delivery Process

From first conversation to live system

- **01 — Discovery Call**
  We learn about your business, challenges, and where we can help most.
- **02 — Scoping & Proposal**
  We map the solution, confirm feasibility, and agree on clear outcomes.
- **03 — Build & Test**
  We build your system, test it thoroughly, and refine it with your input.
- **04 — Deploy & Integrate**
  We go live — connecting it to your tools on your chosen infrastructure.
- **05 — Train Your Team**
  Onboarding sessions and documentation so your team is ready to use it.
- **06 — Monitor & Improve**
  We track performance, maintain governance, and keep improving over time.

ENTRA AI

NEXT STEP

Ready to put AI to work in your business?

Let's start with a conversation. We'll listen to where you are, what you're trying to achieve, and show you what's possible.

GET IN TOUCH

WEB
www.entra-ai.com

EMAIL
info@entra-ai.com

PHONE
+44 2034 323178