

# Computer Vision Artificial Intelligence



**BAE SYSTEMS**

## **We are Techmodal**

A collaborative data consultancy, bringing the capability and creativity you need to unlock the strategic potential in your data.

As Defence and Government experts, we understand the unique complexity of your constraints. Adaptive, imaginative and iterative, we meet you where you are – and start with what you have.

We focus on making more of your existing tools and technology. Applying smart thinking and continuous improvement to uncover the insight in your data – and help you move past your stickiest problems. Optimising your investments, operations and outcomes. Maximising the impact of your resources towards a better future.

Our clients operate in high-stakes, highly technical and highly secure environments. The pace is fast; the demands are complex and the cost of getting decisions wrong is high. They need partners who bring clarity, precision and practical expertise – not complexity for its own sake.

Our value comes from combining deep analytical strength, applied technology expertise and hands-on consulting experience. We turn ambiguity into clarity and insight into action.

## **What we offer**

We operate at the cutting edge of digital innovation and at the heart of organisations that keep vital infrastructure running, national security protected, and armed forces prepared. Our teams provide:

### **Decision advantage**

We give organisations the insight to act with clarity and pace, ensuring choices made today hold up under tomorrow's pressure.

Our strength comes from being data-led, operationally aware and grounded in real-world context. We explore options, test scenarios and highlight trade-offs before action is taken, building confidence in complex and high-consequence environments.

### **Technology that works**

We help organisations unlock the full value of their technology and existing investments. Our solutions are shaped to our clients' environments – secure, scalable and designed for reuse – delivering faster outcomes and greater value for money.

We stay user-driven, not technology-driven, ensuring what we build is usable, dependable and impactful.

## **Delivery impact**

We work shoulder-to-shoulder with clients to turn ambition into results. Our approach is collaborative, adaptive and focused on rapid progress.

We build momentum early, provide clear answers before the conversation moves on and ensure delivery stays aligned to purpose. Whether defining strategy or supporting implementation, we bring clarity, structure and practical leadership.

## **Strength in secure and complex environments**

All our work is delivered by security-cleared teams who understand the realities of Defence, national security and critical infrastructure.

We design and assure solutions that are resilient, secure and governed — engineered to work in environments where constraints are real and reliability matters.

## **Powered by BAE Systems Digital Intelligence**

We combine the pace, creativity and agility of a specialist consultancy with the depth, reach and security of BAE Systems.

Clients benefit from a unique blend of niche expertise and enterprise-scale capability, with seamless access to Digital Intelligence, engineering, cyber and equipment programmes when required.

## **Service Overview**

Techmodal has 20 years' experience of applying data science methods to address our clients' business challenges. We help our customers to digitise workflows and enhance those workflows with Artificial Intelligence (AI).

We employ the latest tools and thinking in the field of Computer Vision to enable our customers to process and derive maximum value from unstructured image, video and audio data. We have proven experience of digesting data sets at various degrees of quality, complexity and maturity to reduce manual effort and produce sustainable insights and decision-making tools, often combining computer vision with other AI techniques, such as Machine Learning (ML), Natural Language Processing (NLP) and Large Language Models (LLMs), and Agentic AI.

Techmodal specialises in developing solutions iteratively and responsively, addressing initial requirements and flexibly accommodating changes during the development process. We work collaboratively with our clients to deliver projects at the full range of maturity and Technical Readiness Level (TRL), from data discovery and strategy to capability demonstrators and hosted production applications. Our service combines our extensive technical expertise with a sharp focus on business need.

We have a demonstrable track record of employing the latest vendor tools and open-source technologies, along with proven solution deployment credentials, utilising both cloud and on-premises infrastructure and working in secure, constrained environments.

### **Service Capabilities**

- We have experience of integrating capability powered by Computer Vision into our customers' existing processes and solutions and of deploying AI in secure environments.
- We have experience of working in environments where labelled training data is either unavailable or lacking in quantity, and have developed innovative workarounds, including:
  - Combining multiple pre-trained models to achieve the best outcomes.
  - Generating synthetic image data which can be used for Computer Vision model training.
- Our solutions can incorporate a web-based User Interface (UI) to enable users to easily interact with the models and outputs.
- Through this approach we have helped our customers to solve business-critical challenges including:
  - Facilitating the search and analysis of captured satellite imagery and the ability to compare images across time using sophisticated change detection algorithms.
  - Combining Computer Vision models to automatically triage Open-Source Intelligence (OSINT) imagery and return images of interest to analysts, enhancing their ability to exploit the large, disparate volumes of OSINT data available to them.

### **Flexible Deployment and Hosting**

- We work with our customers' existing technology stacks wherever possible to maximise the pace of delivery, align with wider digital and data strategies and derive maximum value from existing investments. To support this, we are experts in using a range of COTS and open-source tools and platforms, ensuring we can bring the most effective solution to our customer's challenges.

Techmodal has repeated experience of developing and deploying data science and analytics solutions on customer platforms, including on-premises infrastructure and cloud environments such as Amazon Web Service (AWS), Microsoft Azure, Oracle Cloud Infrastructure (OCI) and Google Cloud Platform (GCP). Our work spans different classification levels, and we have experience of MODCloud (AWS, Azure and Palantir Foundry), Army Hosting Environment (AHE) and Navy Digital environments.

## Service Features

- Repeatable data processing and Extract Transform & Load (ETL) pipelines
- Research and experiment with model types and architectures
- Optimised Machine Learning Predictive Models
- Classification Algorithms
- Model deployment via DevOps pipelines
- Change Detection
- Processing of satellite imagery
- Analysis of Open Source Intelligence (OSINT)
- Friendly user interface for seamless interaction between human & AI
- Clear, ethical development practices and outputs that empower end users

## Service Benefits

- Proven approaches and model architectures
- Strong track record of deploying solutions powered by computer vision in secure environments
- Latest in Machine Learning and AI technologies
- Scalable solutions, either on-premises or cloud
- Flexible infrastructure and hosting options
- Vendor agnostic and experienced in open source software
- Greater utility from existing data
- Enhanced business decisions
- Improved process efficiency
- Enabling delivery of strategic objectives
- Managing compliance to contractual, legal and policy requirements

**End of document**

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