TMA AI CENTER

- Overview
- Services
- Technologies
- Industries

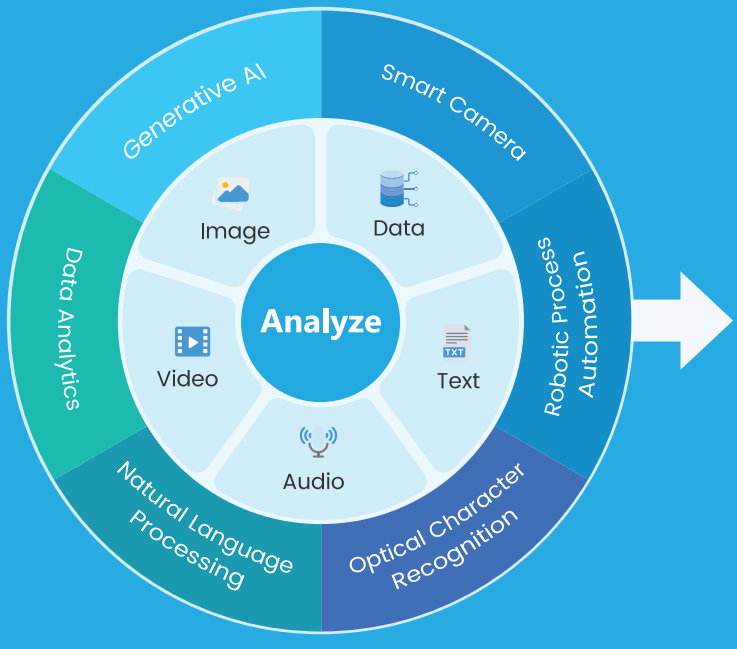
10+ years of experience

100+ AI solutions

300+ AI certificates

100+ AI projects

Clients from **20+** countries



- Manufacturing
- Healthcare
- Telecom & Automotive
- Security & Safety
- E-commerce & Retail
- Finance, Banking & Insurance
- Agriculture
- Education & Recruitment

Services

- Develop AI Features/Products
- Setup AI Development Center
- Provide AI Solutions
- AI as a Service (AIaaS)

+84 28 3997 8000 sales@tmasolutions.com www.tmasolutions.com

Technologies

Machine Learning (ML)

- **Supervised ML:** Linear Regression, SVM, Decision Tree, Gradient Boosted, LDA, UMAP
- **Unsupervised ML:** PCA, t-SNE, UMAP, KNN, K-means clustering, Hierarchical clustering
- **Reinforcement Learning:** Markov decision process, Q-Learning and Deep Q-Networks
- **Predictive Analysis:** ARIMA, SARIMA, Prophet, LSTMs, Transformer-based forecasting
- **Recommendation System:** Collaborative Filtering, Content-based, Hybrid, Graph analysis

Computer Vision (CV)

- **Object Detection:** YOLO v8, Faster R-CNN, SSD, DETR, SORT, DeepSORT, ByteTrack
- **Pose Estimation:** OpenPose, MediaPipe, DeepPose
- **Facial Recognition:** FaceNet, ArcFace, Dlib
- Optical Character Recognition (OCR): Tesseract, EasyOCR, PaddleOCR
- **Video Streaming & Analytics:** NVIDIA DeepStream SDK, GStreamer + OpenCV, FFmpeg, WebRTC
- **Audio & Signal Processing:** Mel-Spectrograms, Sound waves processing, Fourier Transform, Dynamic Time Warping, HuBert...

Edge AI

- **Edge AI Devices:** Raspberry Pi, Jetson Nano, Intel NCS, MCU
- **Edge AI Frameworks:** TensorRT, OpenVINO, ONNX, TensorFlow Lite, PyTorch Mobile, CoreML, ML Kit
- **NVIDIA Frameworks:** Metropolis, DeepStream SDK, TAO Toolkit
- **Qualcomm Frameworks:** Neural Processing SDK

Generative AI | LLMs | NLP

- **Chatbot, LLM:** Rasa, Botpress, TensorFlow, PyTorch, DialogFlow, MS Bot Fwk, Transformers, Gemini, GPT, Llama, Tülu, DeepSeek, Qwen
- **AI Agent, Agentic AI, RAG-based LLM:** Langchain (LangGraph), LlamaIndex (LlamaIndex Workflow), Langfuse, CrewAI, Prompt flow, Voiceflow
- **NLP:** SpaCy, NLTK, TextBlo, RegEx

Speech & Voice Recognition

- **Acoustic & Language modelling:** DNNs, CNNs, Transformers
- **Feature Extraction:** MFCCs, PLP, Spectrograms
- **Frameworks:** Google Speech-to-Text, Amazon Transcribe, IBM Watson Speech to Text, Microsoft Azure Speech, Deepgram, SpeechRecognition, DeepSpeech, Kaldi, Pyttsx3, PyAudio

Cloud AI & Services

- **LLM:** Azure OpenAI Studio, OpenAI API, Bedrock (AWS), Vertex AI (Google Cloud)
- **Video & AI Avatar:** Azure Avatar, Synthesia, Elai, Heygen, D-ID
- **Machine Learning:** AWS SageMaker, Azure ML Studio

Sample AI Solutions for Industries

Manufacturing

- Defect detection
- Product sorting/counting
- Packaging information extraction
- Equipment/machinery data extraction
- Machine optimization
- Predictive maintenance
- Personal protective equipment (PPE) detection
- Smart locker
- Emergency notification monitoring
- Safety & security camera solutions
- Worker/partner/vehicle access control

Healthcare

- Medical documents extraction
- Sleep quality data analytics
- Sleep apnea detection
- Atrial fibrillation detection using ECG
- Customer service chatbot
- Smart call center assistant
- Fall detection
- Patient taking medication activities detection
- Tooth recognition & scoring

Telecom/Networking

- Anomaly detection for cybersecurity threats
- DDoS attacks identification in real-time
- Incident response
- AI chatbots and virtual assistants
- Personalized recommendations for telecom services
- Sentiment analysis
- Self-healing networks for issue resolution
- Automated provisioning and configuration of network devices
- Traffic flow optimization
- Workload prediction & network diagnostics

Agriculture

- Pest detection
- Pig abnormal activities detection
- Durian quality control
- Tree disease detection
- Environment monitoring
- Soil data analytics

Sample AI Solutions for Industries

Security & Safety

- Access control
- Vehicle detection
- License plate recognition
- Parking lot detection
- Aggression/crowd/weapon detection
- Children/pet detection
- Intrusion detection
- Smart locker
- Emergency notification monitoring
- Phishing email detection
- Potential scam detection
- Website spoofing prevention

Ecommerce & Retails

- Smart locker
- Multi-camera tracking
- VIP & blacklist detection
- People counting
- Age & gender detection
- People heatmap
- Customer behavior in retail monitoring
- Smart call center assistant
- Warehouse access control
- AR packaging assistant
- Inventory alert
- Visual & voice search
- Virtual try-on
- Product recommendation
- Chatbots and virtual assistants

Finance, Banking & Insurance

- Automated financial report
- Credit scoring & risk assessment
- Finance report mismatches detection
- Debt reminder
- Insurance claim payment process
- Vault access control
- Smart call center assistant
- Identity card & Driver's license parser
- Bank & tax statement OCR

Logistics

- Automatic container loading
- AR packaging
- Packaging defect detection
- Product counting
- Parking lot detection
- Driver safety solutions

Sample AI Solutions for Industries

Automotive

- Blind spot detection
- Moving object detection
- Speed/distance measurement
- Driver monitoring
- Emotion recognition
- Passenger detection
- Lane detection
- Vehicle detection
- Pedestrian detection
- Drivable area segmentation
- Automatic parking/driving
- Parking space detection
- Navigation by voice
- AR navigation
- ETA (Estimate Time of Arrival) with traffic prediction
- POI (Place of Interest) recommendation
- Road damage detection
- Traffic sign detection
- Traffic light detection
- Traffic off-road detection
- Illegal parking detection
- Violation detection
- License plate recognition
- Audio enhancement for music/person/cabin
- Voice command & voice assistant
- Driver interaction with infotainment controller

Education & Recruitment

- Course builder
- Course finder assistant
- Student behavior tracking
- CV matching
- Job recommendation
- Auto grading assessment

Contacts

Vietnam: +84 28 3995 1060
+84 28 3990 2680

Australia: +61 411 276 342

Email: sales@tmasolutions.com

North America: +1 844 224 4188

Europe: +33 7 44 77 49 24

Japan: +81 50 54 90 98 67

Website: www.tmasolutions.com