TMA Technology Group
Your Technology & Innovation Partner

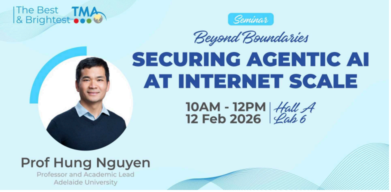
TMA AI Newsletter Q1 2026

Welcome to TMA AI Quarterly Newsletter. Please contact biz@tma.com.vn for detailed information.

- Events
- New Solutions

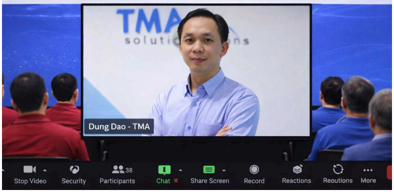
Events

Securing Agentic AI


The Best & Brightest TMA
Seminar
Beyond Boundaries
SECURING AGENTIC AI AT INTERNET SCALE
10AM - 12PM
12 Feb 2026
Hall A Lab 6
Prof Hung Nguyen
Professor and Academic Lead
Adelaide University

The seminar explored security challenges in Agentic AI, including risks like prompt injection, memory poisoning, and identity vulnerabilities, along with practical strategies to improve AI system security.

Thinking in Data: Recommendation Systems in LLM Era Workshop


TMA solutions
Dung Dao - TMA
Stop Video
Security
38
Participants
Chat
Share Screen
Record
Reactions
Reoutions
More

In an event in Japan on AI for Retail, Mr. Dzung Dao from TMA AI Center presented insights on modern recommendation systems and how LLMs enhance personalization and user experience.

AI for Healthcare Research Collaboration Seminar

CSE
HỘI THẢO
Hợp tác nghiên cứu về AI cho Y tế

At the AI for Healthcare seminar organized by AI Network to foster collaboration between universities and industry, the TMA Healthtech Center shared its experience in applying AI technologies to address healthcare challenges.

AI Training for Enterprises Seminar

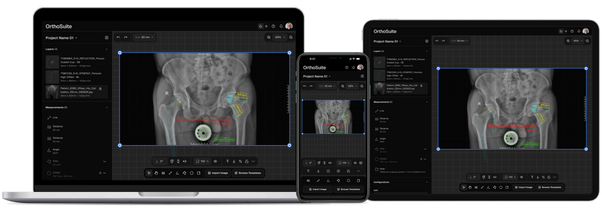
HỘI THẢO
Đào tạo nhân lực AI cho doanh nghiệp

At the AI Training for Enterprises seminar hosted by AI Network, the TMA AI Center proposed models for university–industry collaboration to deliver AI training for both technical and non-technical students.

New Solutions

- 1. Orthopedic Preoperative Planning App
- 2. Real-Time Financial Fraud Detection
- 3. AI for Insurtech
- 4. Agentic Vision Platform 2.0
- 5. Smart Camera for Factories
- 6. Project Management Agent 2.0

1. Orthopedic Preoperative Planning App



Description

An orthopedic preoperative planning app that converts medical images into precise surgical plans. The platform supports a wide range of procedures, including Knee and Hip Arthroplasty (Replacement), Osteotomy, and Trauma (Fracture .Management). By enabling accurate measurements, universal implant templating, and streamlined digital workflows, it empowers surgeons to optimize results for both elective procedures and complex, non-emergent trauma cases.

Functions

- **Smart Calibration:** Features automatic detection of markers (coins or spheres) to bring images to life-size scale. Manual calibration via lines or circles is also supported.
- **Measurement Suite:** Include Distance, Angle, Area, and Circle tools with flexible vertex and position customization.
- **Universal Template Compatibility:** Designed to support digital templates from leading global vendors (e.g., compatible with formats used by Smith & Nephew, Synthes, and others). Authorized users can easily and securely upload and manage their required template libraries directly within the platform.
- **Flexible Implant Interaction:** Allow for rotation (by degree or free-hand), horizontal/vertical flipping, quick resizing via mouse scroll, and opacity adjustments to view underlying bone structures.
- **Project Management:** Allows saving entire plans as local files or using "Reset workspace" to start a new case with a single click.

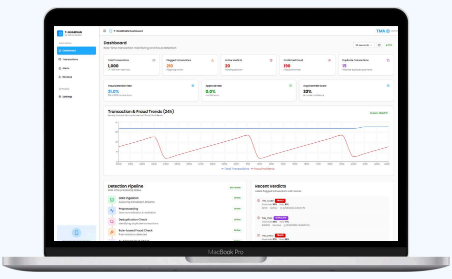
Technologies

- **Front-end:** Progressive Web App (PWA) using WebGL
- **AI/ML Core:** Uses TensorFlow Lite object detection (OpenCV)

Benefits and Applications

- **Progressive Web App:** Access surgical plans anytime, anywhere. The lightweight Web/Mobile PWA works seamlessly across tablets, laptops, and smartphones.
- **Superior Surgical Accuracy:** Minimize intra-operative risks by determining the optimal implant size during the planning phase—ensuring a fit tailored to each patient's unique anatomy.
- **Optimized Workflow:** Eliminate the logistical burden of physical acetate templates. The digital environment accelerates measurements and saves valuable time in daily schedules.
- **High-Fidelity Visualization:** Maintain exceptional clarity for localized X-rays. The solution supports detailed observation and precise planning, even with high-resolution imaging.

2. Real-Time Financial Fraud Detection



Description

An AI-driven security platform that detects real-time financial fraud using hybrid logic, featuring an intuitive dashboard for expert verification and prioritization.

Functions

- **Automated Data Ingestion & Processing:** Automatically retrieve transaction logs from primary databases, perform data cleansing and normalization.
- **Duplicate Payment Detection:** Identify redundancies by correlating transaction amounts, timestamps, and unique identifiers to flag accidental or malicious duplicate payments.
- **Advanced Fraud Detection:** Detect sophisticated patterns such as "Split Transactions" and rapid, consecutive transaction sequences.
- **Anomaly Detection:** Leverage Machine Learning models to identify high-value anomalies and behavioral deviations that do not fit standard user profiles.
- **Risk Monitoring Dashboard:** Offer a centralized visualization hub featuring interactive charts, risk scoring gauges, and categorized alert types for real-time oversight.
- **Human-in-the-Loop Verification:** Provide a dedicated interface for risk analysts and auditors to review flagged transactions, examine evidence, and manually override or confirm alerts.
- **Decision Prioritization:** Automatically rank suspicious patterns based on risk scores, allowing teams to focus on high-priority threats first to optimize response times.

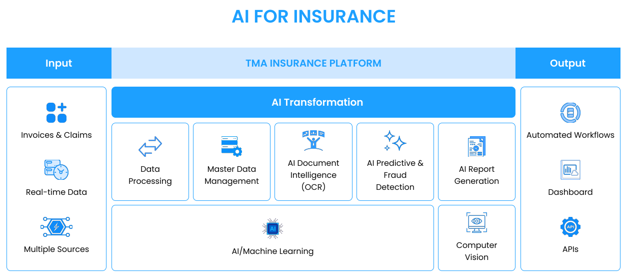
Technologies

- **Frontend / UI:** ReactJS, Tailwind CSS
- **Backend / API:** Python, FastAPI
- **Database:** PostgreSQL
- **AI & Data Processing:** Python, Rule-based engines

Benefits and Applications

- **Mitigate Financial Loss:** Proactively stop fraudulent transfers and duplicate payments before they are finalized, saving significant capital.
- **Operational Efficiency:** Automate the screening of millions of transactions.
- **High Accuracy:** The combination of rigid rules and flexible AI minimizes "False Positives," ensuring legitimate users are not unnecessarily blocked.
- **Scalable Security Infrastructure:** Built to handle high transaction volumes, making it ideal for neo-banks, e-commerce gateways, and fintech enterprises.
- **Regulatory Compliance:** Maintain detailed logs and audit trails, helping organizations meet Anti-Money Laundering (AML) and Know Your Customer (KYC) requirements.

3. AI for Insurtech



AI FOR INSURANCE

Input

TMA INSURANCE PLATFORM

Output

Invoices & Claims

Real-time Data

Multiple Sources

AI Transformation

Data Processing

Master Data Management

AI Document Intelligence (OCR)

AI Predictive & Fraud Detection

AI Report Generation

AI/Machine Learning

Computer Vision

Automated Workflows

Dashboard

APIs

Description

The solution focused on automating insurance workflows through four core capabilities: document intelligence, fraud detection, claim image analysis, and AI-powered report generation. The system leverages OCR, computer vision, and large language models (LLMs) to enhance accuracy, detect fraud, and generate actionable insights for insurance operations.

Functions

- **Document Intelligence:** Extract and structure data from insurance documents (medical bills, invoices, receipts) using a stamp-aware OCR pipeline, including stamp detection, removal, and clean text extraction into structured formats (e.g., JSON).
- **Fraud Detection & Verification:** Detect potential fraud by combining OCR extraction, stamp authenticity checking, fuzzy field matching, and a weighted confidence scoring system with LLM-based reasoning.
- **Claim Image Analysis:** Analyze claim-related images (vehicle, property, medical) to detect damage, classify severity (minor/moderate/severe), and estimate claim costs with AI models.
- **AI-powered Report Generation:** Analyze structured/tabular insurance data (e.g., claims, CLTV) to generate summaries, insights, risk assessments, and recommendations using LLMs.

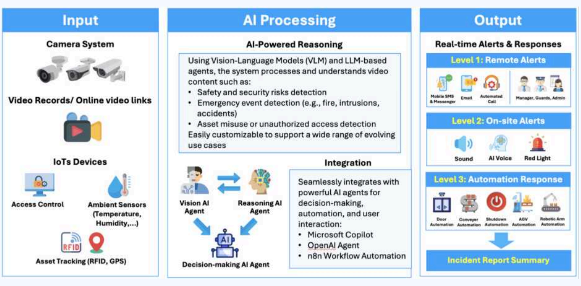
Technologies

- **Frontend / UI:** ReactJS
- **Backend / API:** Python (FastAPI)
- **AI Models:** OpenAI GPT, GPT-OSS, Chandra OCR, RF-DeTR
- **Model Serving:** LLM (GPT / GPT-OSS on-premise), LlamaCpp
- **Cloud & Infrastructure:** AWS/Azure/CGP

Benefits and Applications

- **Automation of Insurance Workflows:** Reduce manual effort in document processing, claim validation, and reporting.
- **Accurate Fraud Detection:** Multi-factor AI validation improves reliability in identifying fraudulent claims.
- **Faster Claim Processing:** Automated image and document analysis accelerates claim assessment and decision-making.
- **Insight-driven Decision Making:** LLM-generated reports provide clear, structured insights and risk evaluations.
- **Modular & Scalable System:** Four independent AI modules can be integrated into existing insurance systems and scaled as needed.

4. Agentic Vision Platform 2.0



Using Vision-Language Models (VLM) and LLM-based agents, the system processes and understands video content such as:

- Safety and security risks detection
- Emergency event detection (e.g., fire, intrusions, accidents)
- Asset misuse or unauthorized access detection

Easily customizable to support a wide range of evolving use cases

Seamlessly integrates with powerful AI agents for decision-making, automation, and user interaction:

- Microsoft Copilot
- OpenAI Agent
- n8n Workflow Automation

Description

Upgraded the Agentic Vision Platform 2.0 platform to improve autonomous navigation, real-time fleet coordination, safety, and scalability—featuring AI-based path planning, dynamic task allocation, real-time monitoring, seamless system integration, and full operational traceability.

Functions

- **Environment Monitoring:** Detect anomalies such as fallen objects, dirt, trash, and water leakage.
- **Safety & Hazard Detection:** Identify fire, smoke, gas issues, and safety equipment status.
- **PPE & Compliance:** Detect missing PPE and non-compliant uniforms.
- **Behavior Monitoring:** Identify unsafe or inappropriate behaviors (e.g., smoking, phone use, restricted activities).
- **Staff Presence:** Monitor attendance at assigned positions.
- **Security Control:** Detect theft, unauthorized access, and suspicious activities.
- **Restricted Items:** Identify prohibited or unattended items.
- **Public Safety:** Monitor risks in public areas (e.g., unattended children, restricted zones).
- **Facility Monitoring:** Detect energy waste such as lights left on.

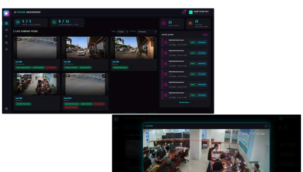
Technologies

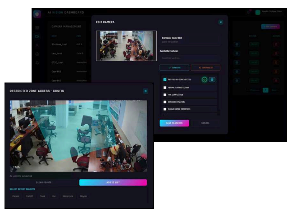
- OpenAI API
- Vision Language Model
- Knowledge RAG
- Graph RAG
- Video Stream Server

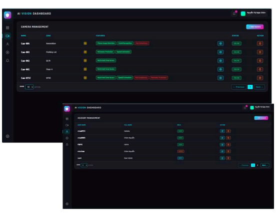
Benefits and Applications

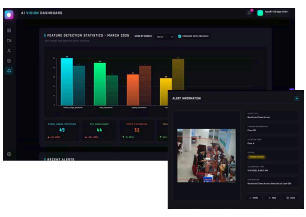
- **Plug & Play Deployment:** Easily deploy across factories, buildings, warehouses, and entertainment areas.
- **No Training Required:** Start immediately without pre-training data or complex model tuning.
- **Adaptive Intelligence:** Dynamically adjusts to different scenarios and evolving operational needs.
- **Seamless Integration:** Connect with AGVs, robotics, and IoT systems for end-to-end automation.

5. Smart Camera for Factories


AI Vision Management Platform: Multiple Camera Live View


AI Vision Management Platform: UI Support for Feature Provisioning & Settings


AI Vision Management Platform: Camera Management & Feature License Control


AI Vision Management Platform: Visualized Statistics with Customized Chart Types

Description

The Smart Camera for Factories transforms traditional CCTV from passive recording into a real-time, decision-driving security system.

With centralized control through an intuitive web interface, AI capabilities are instantly deployed, configured, and scaled across every camera, enabling faster response, reduced risk, and smarter operations at scale.

Functions

AI Vision Core Features

- **Access Control & Perimeter Security:** Secure entry points and restricted zones in real time with facial recognition, license plate recognition, and virtual fencing.
- **Safety Compliance & Hazard Detection:** Enforce PPE compliance and detects fire, smoke, and hazardous proximity early.
- **Behavior & Performance Analytics:** Identifie high-risk behaviors like smoking or phone distractions while analyzing workflows to eliminate production bottlenecks.
- **Logistics & Parcel Intelligence:** Automate product counting, barcode scanning, and package integrity checks while monitoring conveyors for real-time jam detection.

AI Vision Centralized Control Hub

- **Total Feature Control:** Remotely activate, deactivate, or reallocate AI licenses across your factory camera fleet with one click.
- **Visual Provisioning:** Draw "Restricted Zones" and "Tripwires" directly onto live video feeds to customize detection areas instantly.
- **Smart Object Selection:** Tailor each camera to detect specific targets like people, forklifts, or vehicles.
- **Actionable Analytics:** View real-time live feeds and export visualized trend reports to optimize factory safety and performance.
- **Centralized Administration:** Monitor device health and manage secure user roles from a single inventory list.

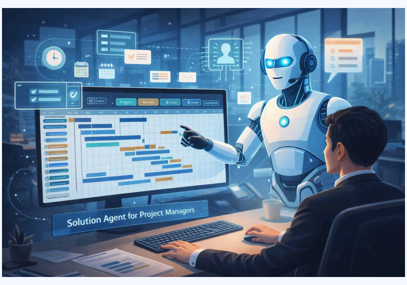
Technologies

- **AI & Image Processing:** High-accuracy Object Detection and multi-object Tracking.
- **Frameworks & Tools:** PyTorch, OpenCV, Label Studio, Ultralytics YOLO, and MQTT for lightweight messaging.
- **Inference Engine:** Optimized performance using NVIDIA TensorRT, GStreamer, and DeepStream.
- **Deployment:** End-to-end Model Conversion, Model Serving, and low-latency Video Streaming.

Benefits and Applications

- **Reduced Operational Liability:** Lower accident risk, cutting insurance costs, legal exposure, and regulatory fines.
- **24/7 Unmatched Vigilance:** Continuously analyze every camera feed, no fatigue, no blind spots.
- **Maximized Asset Utilization:** Optimize traffic flow and equipment movement to increase floor-space ROI.
- **Extended Infrastructure Value:** Upgrade legacy CCTV into intelligent sensors, no costly hardware overhaul required.
- **Data-Driven Safety Culture:** Replace subjective oversight with actionable data to reward compliance and target training effectively.

6. Project Management Agent 2.0


Solution Agent for Project Managers

Description

The updated version enables automatic meeting transcription and summarization, mobile task management, structured approval workflows, dynamic role-based access control, and enhanced reporting with audit tracking.

Functions

- **AI Meeting Notes:** Automatically transcribe meetings and generate summaries.
- **Audio & Meeting Management:** Support audio uploads, processing status and centralized meeting tracking.
- **Mobile Task Management:** Enable task creation, tracking, and notifications via mobile app.
- **Approval Workflows:** Provide structured approval processes with progress tracking and issue reporting.
- **Dynamic Access Control:** Role-based access control with dynamic permission settings.
- **Reporting & Audit Logs:** Deliver dashboards with full audit logs.

Technologies

- Speech-to-Text Models
- LLM & RAG Architecture
- RBAC Permission System
- Workflow Engine

Benefits and Applications

- **Boost Productivity:** Reduce manual note-taking and improve task follow-up.
- **Cross-Platform Collaboration:** Connect teams seamlessly across web and mobile.
- **Project Visibility:** Offer clear insights through dashboards and audit logs.
- **Secure Governance:** Maintain controlled access with structured permissions.
- **Faster Decisions:** Enable quick actions with AI-driven insights.

Explore TMA AI Solutions: TMA AI Solutions