



# Edge **AI** Solutions

The Future of Intelligent Vision

# Revolutionizing AI with Edge Computing

- 1. Edge AI enables real-time processing without relying on cloud connectivity.
- 2. Enhances security, reduces latency, and ensures efficient power consumption.
- 3. Ideal for industries that require quick decision-making and low-latency inference.



## Low Latency

Instant data processing directly on the device.



## Cost Efficiency

Minimizes cloud dependence and bandwidth costs.



## Enhanced Security

Keeps sensitive data local, reducing risks.



## Power Optimization

Designed for low-power devices, ensuring efficiency.



Edge AI Computer



Camera Module

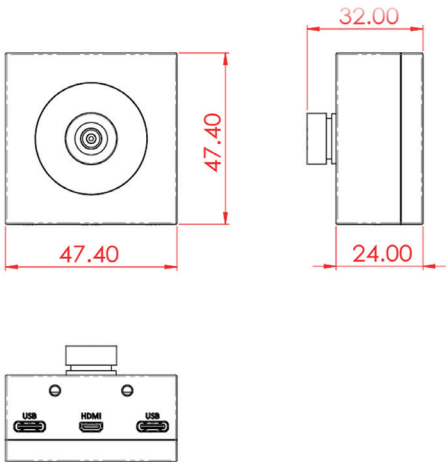


RAYI System

- Low latency processing
- Industrial-Grade Reliability
- Low Power, Energy-efficient
- Multi-platform support

- Full HD 1080P HDR
- 81dB linear/ 105dB HDR mode
- Camera Changeable
- Multiple video output formats

- AI Vision Catcher
- Real-time Decision-making



### CPU

MediaTek Genio 700/ 510

### Memory

LPDDR4 8GB/16GB

### Mass Storage

eMMC up to 128GB (default: 64GB)

### Power Input

12V via USB type C

### Operation System

Linux Yocto

### Power Connector

USB type C (PD)

### USB

1x USB3.0 type-C

### Display

1x micro HDMI 1.4

### Connectivity

Wi-Fi 6 on board

### Camera

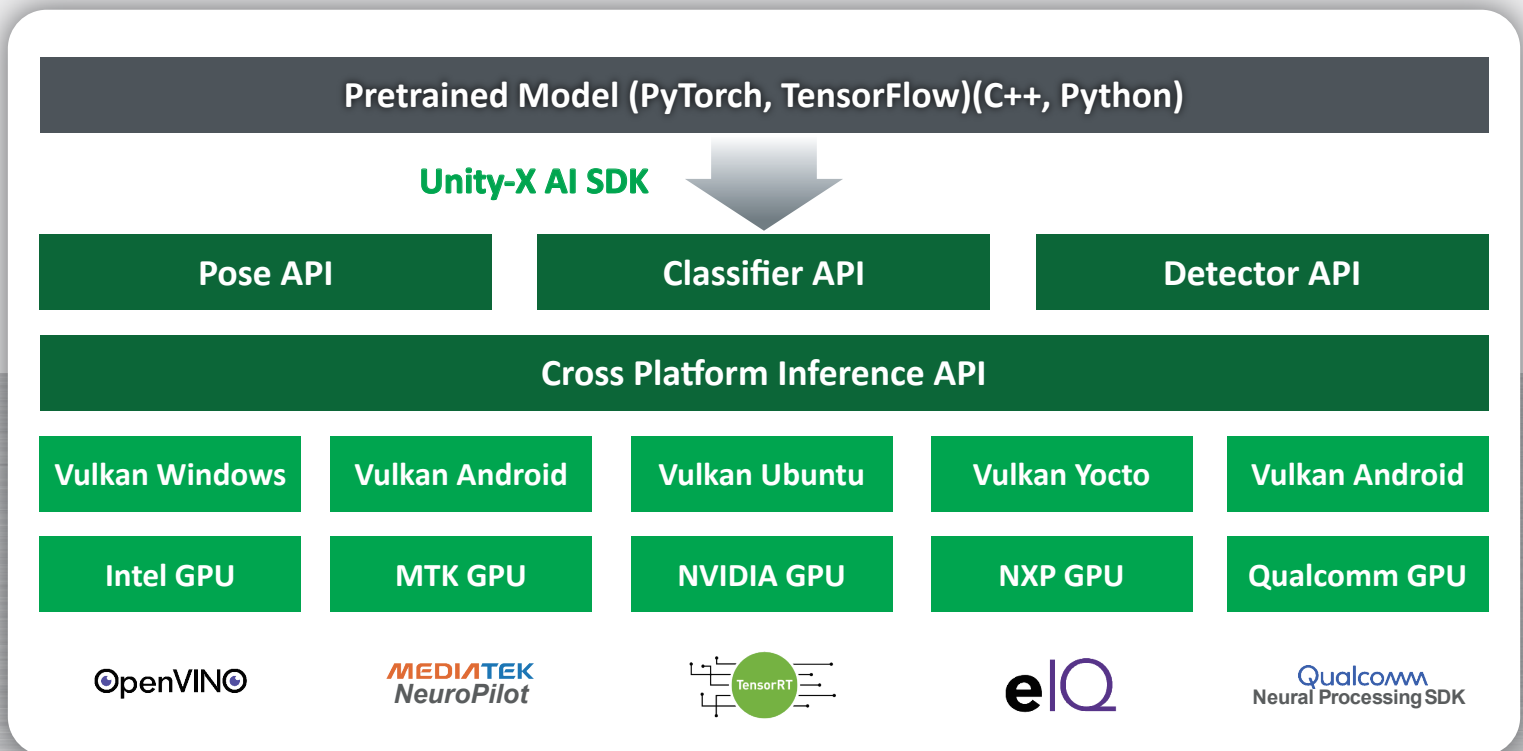
2 MP camera (via USB2.0)

# MiTwell AI Inference SDK – Powering Intelligence

The architecture of an AI inference SDK, with **Unity-X AI SDK** at its core. It provides AI services through the **Pose API**, **Classifier API**, and **Detector API** and enables **cross-platform inference** via the **Vulkan API**.

The SDK supports multiple operating systems and hardware platforms, including **Intel**, **NVIDIA**, **MTK**, **NXP**, and **Qualcomm GPUs**. It also integrates inference acceleration engines such as **TensorRT**, **OpenVINO**, and **NeuroPilot**, enhancing AI computing performance.

This architecture allows developers to efficiently execute AI inference across different devices, whether on **PCs**, **mobile devices**, or **embedded systems**.



## Edge AI Technology & Features

Edge AI technology integrates advanced vision processing capabilities with AI inference engines to deliver high-performance solutions.



### AI Vision Processing

Detects, identifies, and analyzes objects in real-time.

### Cross-Platform Compatibility

Supports various AI frameworks like TensorFlow, PyTorch, and OpenVINO.

### Optimized for Embedded Systems

Runs efficiently on low-power devices.

### Edge-to-Cloud Integration

Seamless connectivity when needed.

# Edge AI Applications



**MiTwel AI Vision Demo** integrates advanced edge AI for real-time visual analysis, including object detection, defect inspection, gender and license plate recognition, bicycle tracking, and fall detection. Optimized for smart retail, industrial automation, and smart cities, it delivers fast, accurate, and efficient AI-powered insights.

## Smart, Secure, and Scalable AI at the Edge

Our Edge AI solutions empower businesses with cutting-edge technology:

### Fast & Reliable

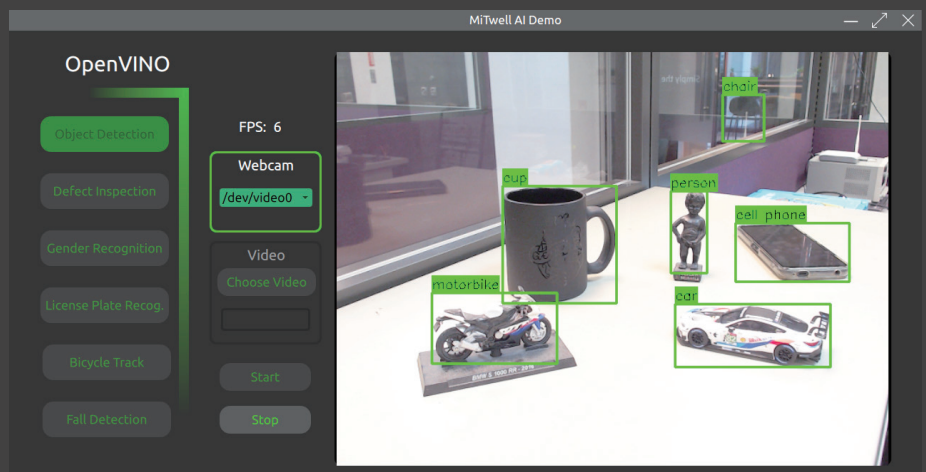
Real-time processing with minimal latency.

### Highly Secure:

Keeps data processing local, reducing security risks.

### Flexible & Scalable

Easily deployable across various industries.



Ex: Object detection

# Edge AI Use Cases

## Smart City / Home

Edge AI computing devices are transforming transportation, education, and smart home appliances, enabling smart surveillance, traffic management, and urban infrastructure optimization for a more connected and intelligent future.



## Smart Retail



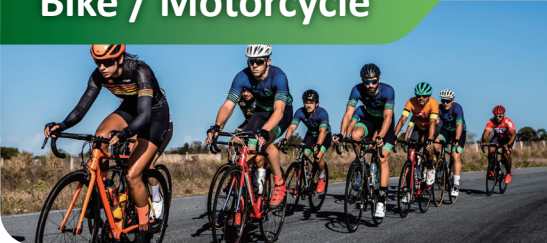
Collecting customer data through compact systems and integrated cameras, our solution enhances intelligent POS systems, inventory management, and customer behavior analysis for smarter retail operations.

## Industrial Automation

Designed for long-term reliability with longevity support and industrial-grade durability, our solution powers automation equipment in smart factories, industrial systems, HMI, and IoT gateways, ensuring stable and efficient operation.



## Bike / Motorcycle



Installed on bikes and motorcycles as an Edge AI visual computer, it enhances cycling intelligence with security monitoring, navigation assistance, obstacle detection, and sports analysis for a smarter and safer ride.

# Edge AI Solutions

System in Omni Chip

**X7000RE + Openvino**

Rugged AI Accelerator

**Nvidia AGX Orin**

Hyper AI Engine

**13<sup>th</sup> Core-i + Nvidia Full size GPU**

High Availability AI Engine

**Xeon + 3 x Nvidia Full size GPU**

47x47x15

75x100x40

190x140x90

170x253x192

234x263x190

175x400x204

440x460x170

AI vision Inspector

**X7000RE + Hailo-8 + Camera**

Edge AI Engine

**12<sup>th</sup> Core-i + Nvidia half size GPU**

Quantum Leap AI Engine

**13<sup>th</sup> Core-i + Nvidia Full size GPU**


## Advanced EAI Solutions Provider

### About **MiTwell**

MiTwell, Inc., founded in 2015, is a dedicated Advanced EAI Solutions Provider specializing in embedded AI solutions. We offer design, development, manufacturing, and integration services for system computers and peripherals. In the evolving AI landscape, MiTwell delivers cutting-edge intelligent modules and reliable, versatile system solutions, empowering customers to navigate market demands and challenges with confidence.

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