Mantiswave Edge AI Platform

Our Edge AI solutions, integrated within the AI/ML Procession on-the-Edge, simplify the deployment of next-generation applications with built-in support for 5G, 4G LTE, Gigabit Ethernet and WiFi 5.0. Equipped with a powerful 26 TOPS NPU, the system delivers more than 30 FPS* performance for real-time processing. Also, user-friendly GUI ensures seamless interaction, while rapid and cost-effective testing across diverse use cases from IoT and security to smart retail, factories, and cities is made possible. While delivering low latency, high throughput, and ultra-reliable mobile connectivity for intelligent edge applications.

Key Features

- **Edge AI Inference**: Real-time video analytics, object detection, segmentation, and many more AI models at the edge.
- **5G Ultra Connectivity**: High-speed, low-latency communication using the 5G, 4G LTE, Gigabit Ethernet and WiFi 5.0.
- **Compact & Modular**: Easily deployable in drones, robots, IIoT gateways etc.
- **Custom Model Support**: Easily port your own AI models after training.
- **Wireless Camera Support**: Can be paired with IP cameras effortlessly.
- Secure and scalable deployment across industrial, enterprise, and smart city grids

Technical Specifications

Component	Specification
Main Processor	64-bit Quad-core ARM Cortex-A76 @ 2.4GHz
RAM Options	8/16 GB LPDDR4X
AI Accelerator	Dual-core NPU @ 26 TOPS, supports TensorFlow Lite, ONNX, PyTorch
5G Network	Fully compatible with Public/Private 5G Networks.
Connectivity	5G, 4G LTE, Wi-Fi 5, Bluetooth 5.0, Gigabit Ethernet
I/O Ports	2× micro HDMI, 2× USB 3.0, 2× USB 2.0, GPIO, CSI Camera
Storage	MicroSD + USB/SSD via USB 3.0
Power Supply	30 Watt, 5V
AI Frameworks	TensorFlow, PyTorch, OpenCV etc.
Form Factor	Modular & stackable (90mm x 60mm x 40mm approx.)

*Depends upon model and input video resolution.

Real-Time Video Processing & Analytics

- AI-enhanced surveillance and safety monitoring
- Edge video analytics and anomaly detection
- Full support for IP/USB/CSI cameras
- Integration with Mantiswave's low-latency video uplink APIs

Custom AI Training and Inference

Train AI models with your own dataset, compile it for edge AI device and deploy directly at the edge. Ideal for:

- Personalized AI workflows
- Federated learning across network-connected nodes
- Offline/online hybrid deployment

Applications

- Smart Factories with real-time AI inspection
- Intelligent Traffic Monitoring
- Perimeter Security with live object detection
- Drone-based AI with low-latency feedback
- Remote AI diagnostics and training over 5G

What's in the Kit?

- Mantiswave EDGE device
- Power Supply Adaptor
- Monitor, Keyboard, Mouse
- Preconfigured OS with Mantiswave Network Graphical User Interface (GUI) for EDGE
- Sample AI Models and Training Scripts
- Custom Model Porting and AI Design workflow
- Experiment manuals including codes.

Developer-Friendly & Scalable

- User friendly GUI for efficient and fast operation
- SDK support for Mantiswave Edge Management Tools
- Support for various types of cameras makes it scalable for every AI application

Ready to Deploy with Mantiswave Private 5G Box

Take advantage of secure, reliable, and lightning-fast 5G edge infrastructure with Mantiswave:
- Rapid deployment
- Edge-to-core visibility
- Built for private, public, and hybrid 5G networks

Experiments:

i. **Edge AI Deployment and Management via Mantis Dashboard**
Seamlessly deploy, manage, and monitor AI models on Mantiswave Edge AI devices using the intuitive Mantis dashboard interface.

ii. **AI Video Processing with Advanced Vision Models**
Utilize real-time video processing on the edge using state-of-the-art detection, segmentation, and pose estimation models, all managed through the Mantis dashboard.

iii. **Custom AI Model Integration**
Port and deploy your own custom-trained AI models to the Mantiswave Edge AI Development Board, ensuring compatibility and optimized performance on edge hardware.

iv. **End-to-End AI Model Workflow**
Generate datasets, build and train tailored AI models, and efficiently port them to the Mantiswave Edge AI Development Board for specialized use cases.

v. **Model Health and Performance Monitoring**
Continuously track AI model health and accuracy in production, enabling timely retraining and improved reliability.

Contact Us:

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