

## AI-Powered Applications

### Edge AI Enables Smarter 24/7 Gym Operation and Management

Real-time monitoring and less manpower

**Scenario-1: AI Coaching**

**Scenario-2: User Safety**

**AIIXON** OOB Management Solution Edge AI Device Management

- 1. Remote management
- 2. Fits for unmanned environments

Products: PJAI-200 (200 TOPS), PJAI-1100F (157 TOPS), PJAI-1100 (100 TOPS)

### AI Crop screening and quality classification

Manual classification is slow, and the quality is unstable

Air compressor system precisely controls the classification and screening of good and bad crop

AI Inference System (Halo 4 module)

Input: Image of crop

Output: Inference result

Process: Feeding, Lighting, Camera, Image capture device, Classification by air compressor system

Ports: RJ45/USB, GPIO/USB, RS-485, GPIO

### Semiconductor AI Intelligent High-Efficiency Die Sorting Solution

PSYS-508-Q670 4U Rackmount Intel® Core™ AI Inference System

1 X RTX 4070 Graphics Card / 1 X Halo AI Accelerator

14th/13th/12th Generation Intel® Core™ i9/i7/i5/i3 processors

4 x U-DIMMs, max. 128GB, DDR5

7 x SATA 6.0 Gb/s ports, supports RAID 0/1/5/10

2 X DP, 1 X HDMI and 1 X VGA

6 USB 3.2 Gen 2 ports and COM ports

ATX 600w 80 plus gold

Process: Pick-up Die, Die Transfer, Sorting, Inspection and Alignment

### AI-Assisted Screening for Pulmonary Nodules

Minimize CT Image Analysis Wait Time

Advantage: Physicians can make further medical decisions based on image analysis results

Input: CT image (RJ45)

Output: Pulmonary Nodule CT Image Analysis Result (GPU)

Accuracy Assessment ↑ up to 85%

Diagnostic Efficiency ↑ increase by 70%

Portwell MEDS-7081

Muen Biomedical and Optoelectronic Technologies

Application: CT image analysis for detecting pulmonary nodules and highlighting their locations

### Portwell ioNetworks

Together with ioNetworks AI solution, vehicle control and management are easy and 24/7. Introduce AI into traffic management. It can not only support real-time license plate recognition but also detect various traffic violations.

Smart Traffic

Products: WEBS-45J1, PJAI-100-OX1GG

ioNetworks Solution: Traffic violations detection, License plate recognition

### Portwell NEUROCLE

Deep Learning Vision Inspection on Jetson Edge AI Platform

Automotive

LED Monitor, PJAI-100

NEURO-T: No code, GUI-based software; Users can create high performance inspection models without deep learning experience

NEURO-R: Integrate models with on-site vision systems; Supports real-time inspection with 99.99% deep learning models

Applications: Automotive part assembly inspection, X-ray inspection for irregular defects, GigE / USB Camera, Automotive wheel stud production line

# EDGE AI PLATFORMS GUIDE

## Embedded Systems and Medical Panel PC



- ✓ AI based Embedded Systems with latest Intel & Jetson Processor
- ✓ AI Medical Panel PC
- ✓ Reliability Robust Design



**Edge AI Computer with NPU**
**LYNX-812A**

Compact embedded system with Intel® Amston Lake processors

- Up to 32GB LPDDR5 4800 MT/s memory (default 8GB)
- Onboard eMMC up to 256GB and M.2 SATA SSD support
- HDMI 1.4a and DisplayPort via USB-C
- M.2 E-Key for WiFi/Bluetooth
- Wide power input 12V~30V DC
- Operating temperature: -40°C ~ 70°C
- TPM 2.0 onboard security


**WEBS-45J1**

Embedded Rugged Fan-less System with Intel® 14th/13th/12th Generation Core

- DDR5 5600/DDR5 5200 SO-DIMM up to 96GB
- Triple DP up to 8K resolution and one HDMI display
- 1x M.2 E Key 2230, 1x M.2 M Key 2242/2260/2280
- 4x COM ports, 2x LAN, 8x USB
- 2x Antenna holes for Wi-Fi modules
- Wide operating temperature -20°C~60°C


**Industrial NVIDIA Jetson AI Computer**
**PJAI-200**

Embedded Edge AI system with NVIDIA® Jetson AGX Orin Module

- 1 x GbE, 1 x 10GbE, 12 x PoE, 8 x USB 3.2
- AGX Orin (200 TOPs)
- 2 x RS-232/422/485, 1 x CANbus FD
- Optional OOB integrated


**PJAI-2200** **COMING SOON**

Embedded Edge AI system with NVIDIA® Jetson AGX Orin Module

- 2 x GbE, 1 x 10GbE, 4 x PoE, 6 x USB 3.2
- AGX Orin (up to 275 TOPs)
- Optional I/O board for expansion (Example: PoE, GMSL, OOB)


**Edge AI Computer with NPU**
**WEBS-45J3**

Embedded Rugged Fan-less System with Intel® 14th/13th/12th Generation Core

- DDR5 5600/DDR5 5200 SO-DIMM up to 96GB
- 1x M.2 E Key 2230, 1x M.2 M2 Key 2242/2260/2280
- 4x COM ports, 2x LAN, 8x USB
- 2x 2.5" removable HDD trays
- 2x Antenna holes for Wi-Fi modules
- Wide operating temperature -20°C~60°C
- Wide DC 12V~36V voltage input


**Industrial NVIDIA Jetson AI Computer**
**PJAI-1100**

Fanless Compact System with NVIDIA® Jetson Orin Nano / NX Module

- Fanless System with NVIDIA® Jetson Orin module up to 100 TOPs
- 4GB/8GB/16GB 64-bit LPDDR5 (By SOM)
- 1x M.2 2230 E-Key, 1x M.2 3042/3052 B-Key, 1x M.2 2280 M-Key NVMe (PCIe x4) and 2x Nano SIM slots
- Supports 2x RJ45 GbE and 3x USB 3.2 Type A ports
- 2x DB9 COM ports and 1x DB9 CANbus


**Edge AI Computer with PCIe GPU**
**PSYS-508-Q670**

4U Rackmount system with Intel® 14th/13th/12th Generation Core

- 14th/13th/12th Generation Intel® Core™ i9/i7/i5/i3 processors
- 4x U-DIMM slots support DDR5 DRAM up to 128GB
- 5x PCIe slots, 2x PCI slots
- 2x DP, 1x HDMI, 1x VGA display
- 2x M.2 slots, 3x LAN ports


**Panel PC with MXM GPU**
**WMP-19S**

19" Medical AI Panel PC with Intel® 13th/12th Generation Core

- 1 x GbE, 1 x 2.5GbE, 5 x USB 3.2
- Anti-Bacteria (MRSA) Plastic Housing & Touch
- 19" 1280x1024, 350 nits Diagnostic Panel
- High performance intel 12th /13th generation Core i CPU
- Supports Dual Channel DDR5 up to 96GB
- Projective Capacitive Multi-touch screen (10 fingers)


**Industrial NVIDIA Jetson AI Computer**
**PJAI-1100F**

Compact System with NVIDIA® Jetson Orin Nano / NX Module

- Embedded System with NVIDIA® Jetson Orin™ NX SOM (up to 157 TOPs)
- 8GB/16GB 64-bit LPDDR5 memory
- 1x M.2 2280 M Key NVMe (PCIe x4)
- 1x M.2 2230 E Key, 1x M.2 3042/3052 B Key and 2x Nano SIM slots
- 2x RJ45 GbE and 3x USB 3.2 Type A ports
- 2x DB9 COM ports and 1x DB9 CANbus


**PJAI-1200** **COMING SOON**

Fanless Compact System with NVIDIA® Jetson Orin Nano / NX Module

- 2 x GbE, 4 x USB 3.2
- Orin Nano / Nano Super / NX / NX Super (up to 157 TOPs)
- Optional I/O board for expansion (Example: PoE, GMSL, OOB)


**Panel PC with MXM GPU**
**WMP-22S**

21.5" Medical AI Panel PC with Intel® 13th/12th Generation Core

- 21.5" Full HD (1920 x 1080) AHVA Diagnostic Panel
- High performance intel 12th /13th generation Core i CPU
- Dual Channel DDR5 up to 96GB
- Independent Nvidia A4500 graphic with 16GB dedicated video memory
- Video in port with RGB Color adjustment function
- MECM, DFCL & Autopilot


**WMP-24S**

23.8" Medical AI Panel PC with Intel® 13th/12th Generation Core

- 23.8" Full HD (1920 x 1080) MVA Diagnostic Panel
- High performance intel 12th /13th generation Core i CPU
- Supports Dual Channel DDR5 up to 96GB
- Projective Capacitive Multi-touch screen (10 fingers)
- Optional Independent Nvidia A4500 graphic with 16GB dedicated video memory

