



AI Education Platform

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AIER1000 Series

AI Education Solution

8th Gen Intel® Core™ i7-8700 Processor
AI Education Solution



AIER102E



Features

- A comprehensive AI deep learning and edge computing solution designed for educational providers
- Designed for collecting and analyzing student's behavior and engagement in the classroom through facial recognition
- Optimize teaching quality through classroom interaction analysis
- Facial Recognition - 98% face verification accuracy for 1:1
- Biometric identification - 6 kinds of student face emotion identification
- Behavior identification - 9 kinds of student behavior identification

I/O View



AIER102E



AIER100C



Specifications

Model No.	AIER102E	AIER100C
System Mainboard	MI998AF-AI	
CPU Type	8th Gen Intel® Core™ i7-8700 Processor 3.20GHz, TDP ≤ 65W	
CPU Socket	LGA1151	
Chipset	Q370 PCH	
Memory	2x DDR4 SO-DIMM 2666/2400 MHz up to 32GB, default 2x 8GB	
Graphics	Intel® UHD Graphics 630	
LAN	1x Intel® I219LM 1x Intel® I211AT	
Expansion Slots	N/A	
Front Side External I/O	2x USB 2.0 1x Reset button 1x Power/HDD LED	
Rear Side External I/O	1x HDMI 4x USB 3.0 2x RJ45 Gigabit LAN 1x COM port RS232 1x AC-in	
Capture Card	Video Input: 4x SDI Max. FPS: 1920 x 1080p @60/50fps in → 1920 x 1080p @60/50fps out Recording Video Resolution: 3G-SDI: 1920 x 1080p @60/50fps HD-SDI: 1920 x 1080p @30/25/24fps 1920 x 1080i @60/50fps 1280 x 720p @60/50fps SD-SDI: 720 x 480i @60fps 720 x 576i @50fps	
Auto Control and Monitoring	Watchdog Timer: 256 segments, 0, 1, 2...255 (sec/min)	
Power Requirement	AC 100~240V	
Construction	Aluminum + SGCC	
Weight	8kg (17.64lbs)	
Chassis Color	Gray & white	Blue & white
Storage	2x 2.5" SATA Devices, default 1x 128G SSD and 1x 500G HDD	2x 2.5" SATA Devices, default 1x 128G SSD and 1x 2TB HDD
Mounting	Standard system bracket	

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Dimensions	406mm(W) x 345mm(D) x 93mm(H) 462.8mm(W) x 345mm(D) x 98mm(H) with desktop mounting kit
Operating Temperature	0°C ~ 45°C (32°F ~ 113°F)
Storage Temperature	-20°C ~ 80°C (-4°F ~ 176°F)
Relative Humidity	10%~90% (non-condensing)
Certification	CE/FCC Class-A
Operating System	Windows 10 64-bit Enterprise

Full HD Camera Specifications

Image Sensor	1/3 inch Progressive CMOS
Sensor Size	5.346 x 3.003mm (16:9)
Effective Pixels	Horizontal: 1920, Vertical: 1080
Pixel Size	2.75um x 2.75um
Resolution	1080p / 1080i: 1920 x 1080 720p & 720i: 1280 x 720
Resolution/Rate	1080 60p/ 59.94p/ 50p/ 30p/ 29.97p/ 25p 1080 60i/ 59.94i/ 50i 720 60p/ 59.94p/ 50p/ 30p/ 25p
Output	HD-SDI/ 3G-SDI (1 BNC) HDMI 1.3a
Color Space	4:2:2 (YCbCr) 10 bit
Camera Control	RS-485, OSD Button
Operation Temp	32°F ~ 104°F

Dimension	49mm x 49mm x 71mm (with default 3.6mm lens)
Weight	180g/0.39Lbs (With default 3.6mm Lens)
Power	30W/ 12V DC

Packing List

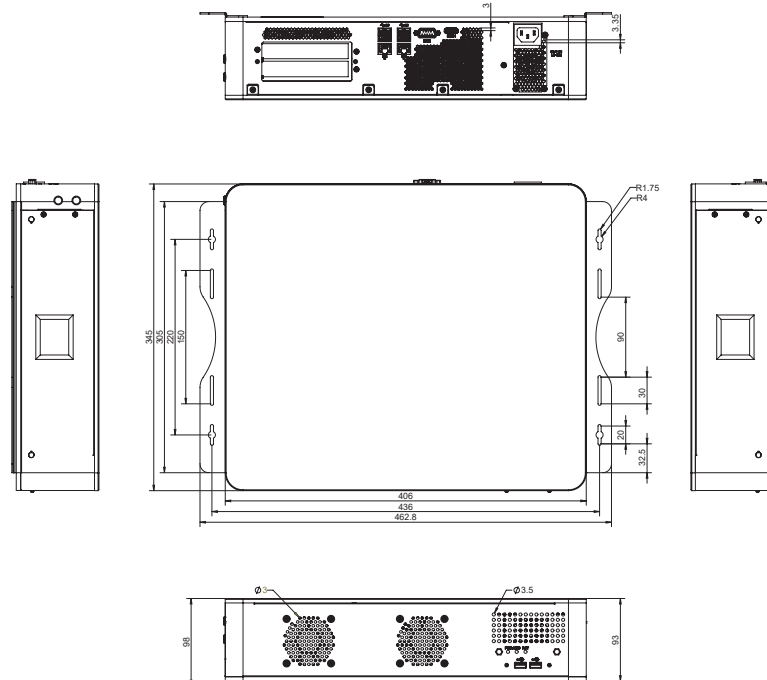
Model No.	AIER102E	AIER100C
Mounting Kit	Wall mount kit and screws	Wall mount kit and screws
Power	Power cord for System	Power cord for System
Camera Kit	2x AIDA SDI interface, Full HD cameras 2x 12V power adapters and Power cables 2x SDI 20M cables	None

Ordering Information

AIER102E	Artificial Intelligence System for education edge side solution, w/ Intel® Core™ i7-8700 (3.2GHz/4.6GHz) CPU, 2x 8GB DDR4 Memory, 1x 2.5" 128GB SSD & 1x 2.5" 500G SATA III HDD, PCI-E SDI Capture Card, 2x FHD Cameras Kits, Edge side A.I. SDK & WIN10 IoT LTSE 2016 High End OS, 100V~240V AC
AIER100C	Artificial Intelligence System for education Central Management Server, w/ Intel® Core™ i7-8700 (3.2GHz/4.6GHz) CPU, 2x 8GB DDR4 Memory, 1x 2.5" 128GB SSD & 1x 2.5" 2TB HDD, Central Management Server A.I. SDK & WIN10 IoT LTSE 2016 High End OS, 100V~240VAC

* Intel is committed to respecting human rights and avoiding complicity in human rights abuses. See Intel's Global Human Rights Principles. Intel's products and software are intended only to be used in applications that do not cause or contribute to a violation of an internationally recognized human right.

Dimensions



Remarks: 1. Specifications are subject to change without prior notice. 2. ODM/OEM is available. 3. For user's manual & datasheet download, visit www.ibase.com.tw.

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IBASE AI Education Platform

Solution Overview -

A comprehensive AI deep learning and edge computing solution for educational providers that collects and analyzes student's behavior and engagement in the classroom using facial recognition. Facial recognition AI can interpret student data using quantitative methods to help educators to provide efficient teaching in educational environments.

AIER102E

Edge Side System



OpenVINO™

QDEEP
QUICK DEEP LEARNING

QCAP
QUICK CAPTURE

AIER100C

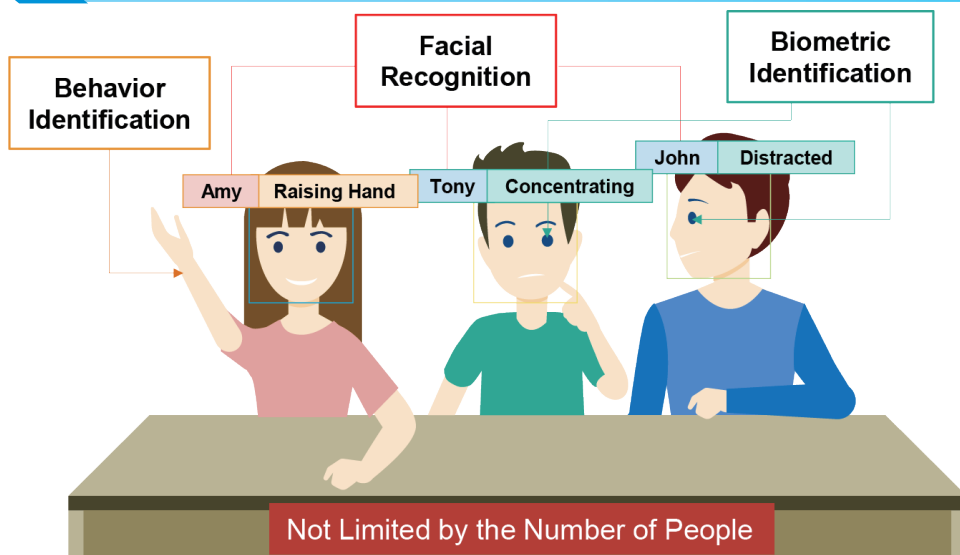
Central Management Server



* QDEEP and QCAP are SDK (Software Development Kit) provided by YUAN.

* OpenVINO and the OpenVINO logo are trademarks of Intel Corporation or its subsidiaries.

Solution Diagram



With the aid of facial recognition, students' behavior and class engagement become quantifiable data that can be used to promote efficient teaching in an educational environment.

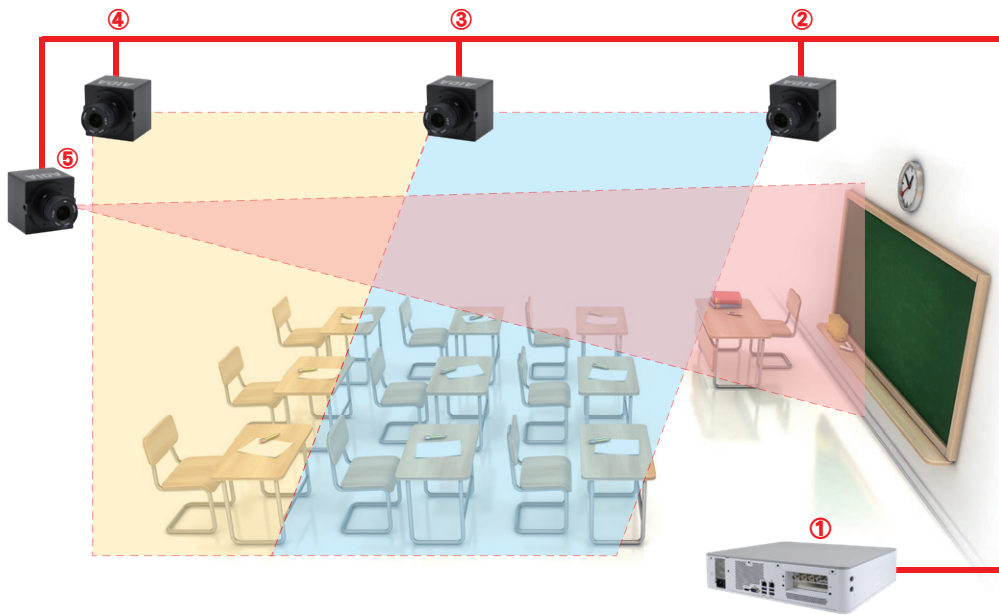
Value Prop

- Tailor lesson plans to increase student engagements with key insights gathered from AI facial recognition.
- Track behavioral data with AI image analysis through facial recognition to understand and improve student experiences.

Features & Benefits

Features	Benefits
Facial Recognition: Side detection angle range: -90° ~ +90° 98% face verification accuracy for 1:1	Can be used as an auto roll call and administration system to identify students and record their presence date/time in the class.
Biometric Identification: 6 kinds of student face emotion	Measure student emotions and provide concentration analysis data to help design effective teaching materials and methods.
Behavior Identification: 9 kinds of student behavior	Understand the students' feedback and timely adjust the lesson content according to the collected data.

Smart Classroom Arrangement



Hardware:

- ① AIER102E AI Education System
- ② Camera 1 → for Students
- ③ Camera 2 → for Students
- ④ Camera 3 → for Students (Future feature)
- ⑤ Camera 4 → for Teacher (Future feature)

Software:

QDEEP Education

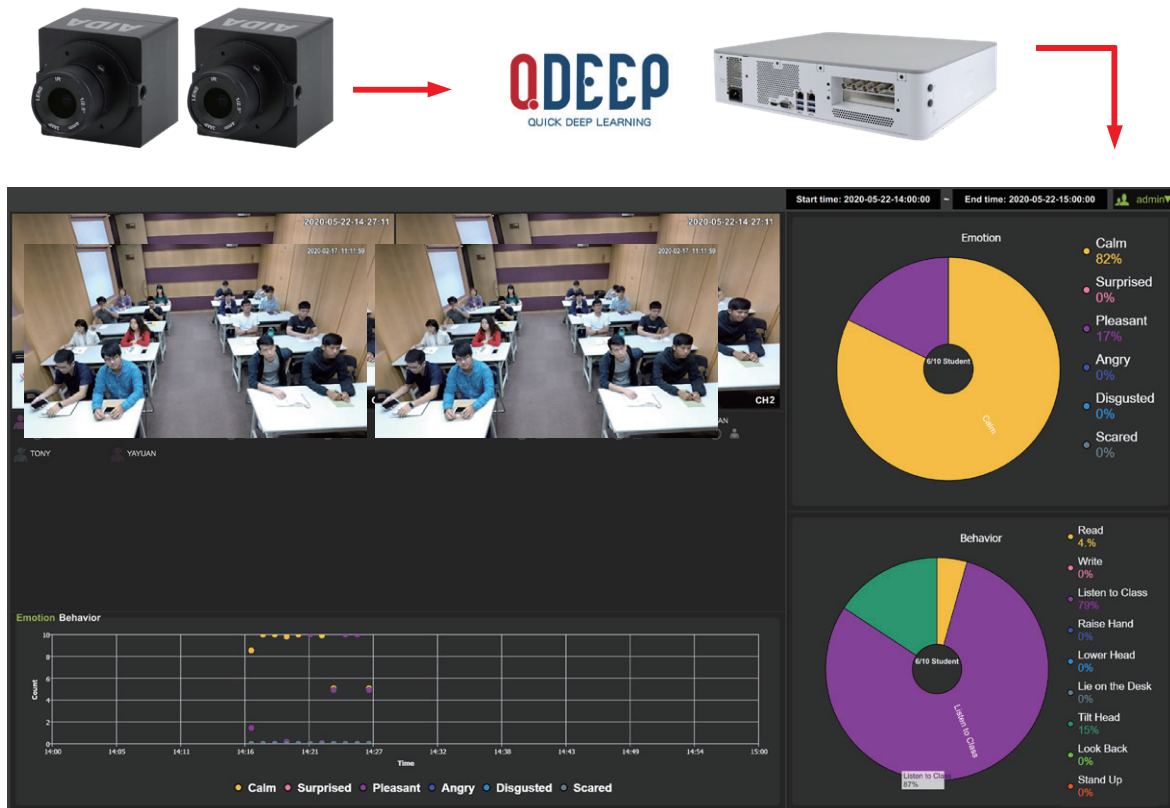
Surroundings:

- ① No. of detection: Max. 35
- ② Detected area space: 6M x 5.5M

Camera setting:

The cameras set up at a distance of 210 cm from the ground and look down at a 45-degree angle

Dashboard for Student Behavior Analysis



Capture



Recording



Streaming



Playback

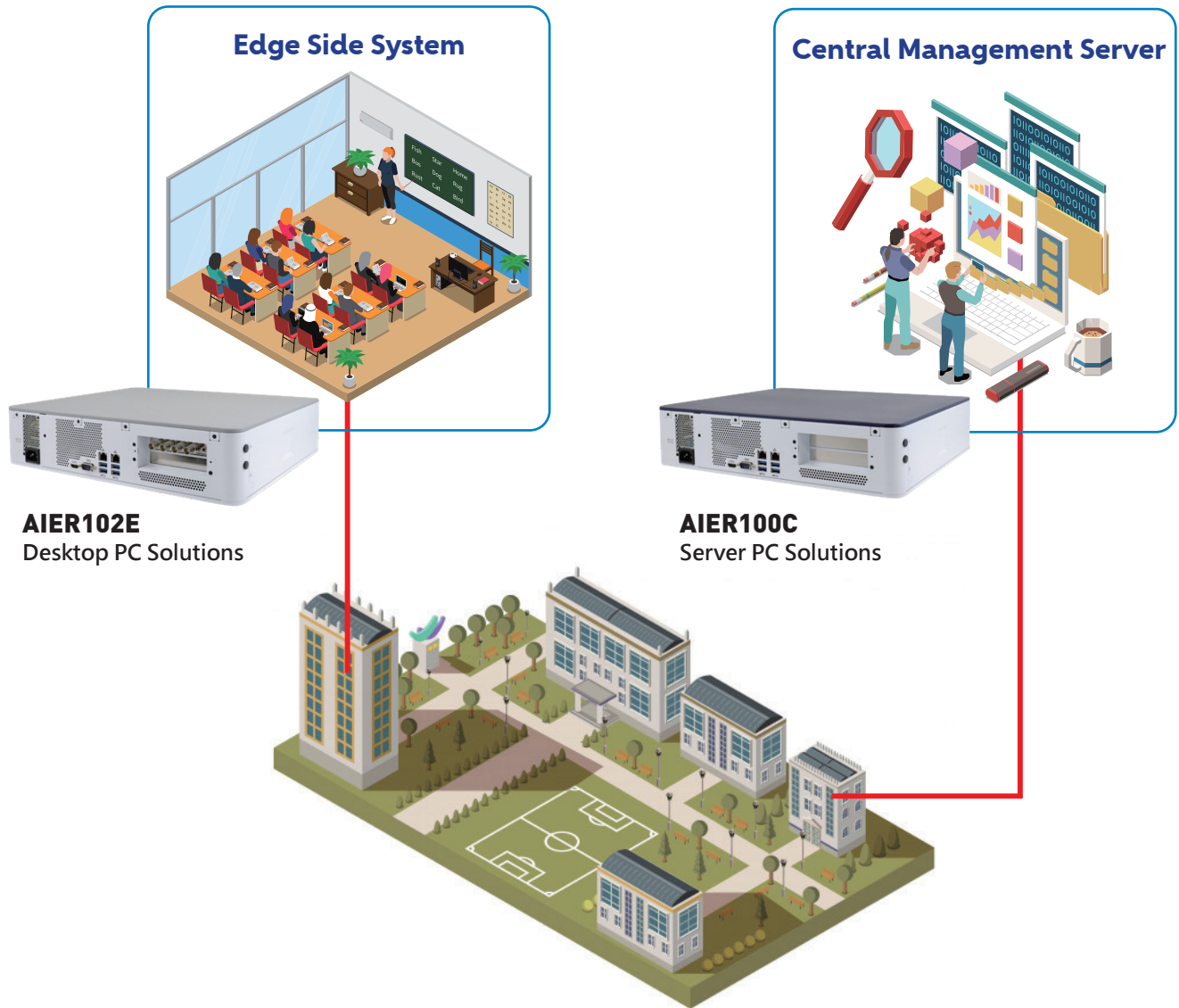


Editing



Tools

IBASE Education Solutions



AI Focus Areas in Education

