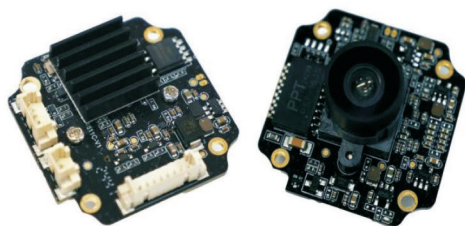


Product Name: Unimage PI

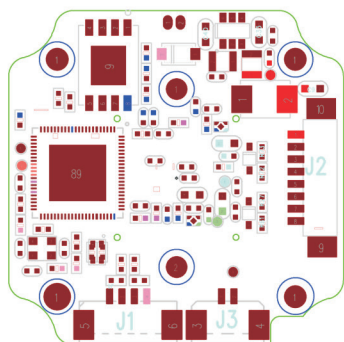
Key Parameters



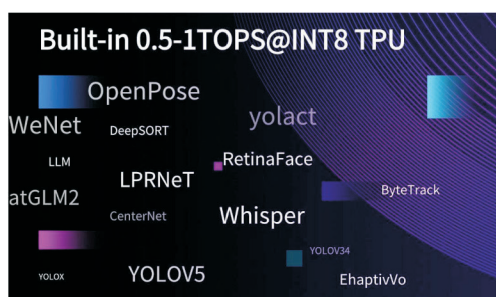
Product Image

Applications

- Intelligence Terminals
- Industrial Identification
- Smart Security
- Smart Home
- Smart Payment
- Intelligent Driving and Transportation
- Pet monitoring
- Intelligent traffic management system
- Smart Fitness Equipment and Devices



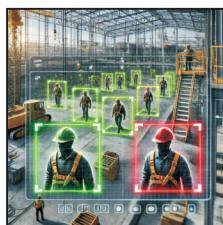
PCBA Display Diagram



Algorithmic Capabilities

Model	UnimagePI B2	UnimagePI A1	UnimagePI A5
RISC-V CPU	C906@1Ghz+C906@700MHz	C906@1Ghz+C906@700MHz	C906@1Ghz+C906@700MHz
Memory	SiP DDR3 2Gb	SiP DDR3 1Gb	SiP DDR2 512Mb
TPU	INT8@~1TOPS+ HW IVE + Vector	INT8@~0.5TOPS+ HW IVE + Vector	INT8@~0.5TOPS+ HW IVE + Vector
SENSOR	2MP 1/2.9 HDR 30F	2MP 1/2.9 HDR 30F	2MP 1/2.9 HDR 30F
FOV	D140°H120°V75	D140°H120°V75	D140°H120°V75
Ethernet	100Mbps	100Mbps	100Mbps
UART	UART/ RS485	UART/ RS485	UART/ RS485
USB	USB 2.0	USB 2.0	USB 2.0
GPIO	5V 1A output, with controllable I/O	5V 1A output, with controllable I/O	5V 1A output, with controllable I/O
Power	5V/1A	5V/A	5V/1A
os Support	Linux, RTOS	Linux, RTOS	Linux, RTOS
Dimension	32mm x 32mm	32mm x 32mm	32mm x 32mm

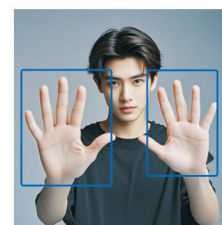
Visualization:



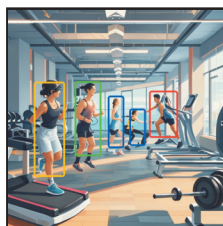
Safety Helmet Inspection



Face Recognition



Hand Gesture Recognition



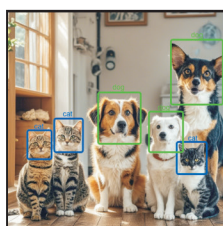
Safety Helmet Inspection



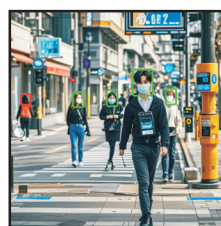
Pedestrian Detection



Expression Recognition



Pet and Human Identification



Mask Recognition



License Plate Recognition

Key Features

Application Scenarios			Application Scenarios	Face Detection (ScrFD)	Face Recognition	Face Mask Detection	Gesture Recognition	Pedestrian Detection				Pets and Humanoids Detection	License Plate Recognition	Posture Detection (YOLOV8)		
Algorithmic Models			RetinaFace_Hardhat	ScrFDFace	Face-Recognition	Mask-Classification	Hand-Classification	MobileDetV2_Pedestrian				MobileDetV2_Person_Pets	CVI_TDL_LicensePlateRecognition_CN	Yolov8_Pose		
								mobiledetv2-pedestrian-d0-ls-384.cvimodel	mobiledetv2-pedestrian-d0-ls-640.cvimodel	mobiledetv2-pedestrian-d0-ls-768.cvimodel	mobiledetv2-pedestrian-d1-ls-1024.cvimodel					
Model performance			ION /FLASH		9.96MB /1.05MB	4.50 MB /742KB	2.97 MB /2.36MB	3.11MB /2.30MB	0.81 MB /781KB	0.96 MB /427KB	1.90 MB /493KB	2.81MB /544KB	5.89 MB/1.00MB	6.5MB/2.99MB	1.44 MB/689KB	6.1MB/3.43MB
			Time-consuming Metrics	V P S S	8.58	8.55	1.34	3.17	1.34	8.51	8.46	8.64	8.67	8.52	0.0338	8.68
				T P U	38.4	10.9	7.96	4.88	0.821	3.95	10.6	16.8	45.2	32.8	8.49	31.5
				P O S T	2.04	0.413				0.278	0.551	0.823	1.29	0.56		0.283
				T O T A L	49.1	19.8	9.29	8.05	2.17	12.7	19.6	26.2	55.2	41.9	8.53	40.4
			Per formance	m A P (0.5)	81.87%	easy:89.4% medium: 86.5% hard:65.9%				45.0%	73.4%	66.0%	76.6%	87.0%		83.4%
				F M R			0.1									
				F N M R			0.0141									
A C C					0.9718	0.9091										