

BioServer mini-server



Introduction

The BioServer-N2 mini-server can be used as back-end server for facial recognition devices under small scale application. BioServer-N2 receives video streams from front-end cameras or captured photo streams, then perform 1:N face comparison, and reports or synchronizes the results to access control, time & attendance or surveillance system for further usage. With strong performance and directional optimization of the server-level facial recognition algorithm, the speed of facial recognition can easily reach 20 faces per second.

The BioServer-N2 mini-server is equipped with a tensor processor which provides up to 3.2 TFLOPS dual precision peak computing ability and embedded 16MB of SRAM, while greatly improves the reasoning performance of computer vision, it also reduces the power demand. The processor chip has reached millisecond-grade response in mobile lightweight universal face benchmark model Mobile-net latency test which is only a half or quarter of industry mainstream chip.

Features

- Mini-server for facial recognition on the local side instead of the cloud.
- Enterprise-level face detection and facial recognition.
- Built-in special computer vision processor can facilitate the deployment of existing DNN/CNN/RNN/LSTM and other mainstream or trained neural network models.
- Supports multi-channel video stream and JPEG photo input.

Functions



Face detection, facial recognition and facial feature analysis, such as age and gender.



Face tracking, reloading, and matting.



Report facial recognition information.

Specifications

Hardware

Dimensions (W*D*H):	115*210*45mm
Network interface:	1* gigabit ethernet port
Buttons:	Reset button; press and hold the button for 5s to restart the device; press and hold for 15s to reset all parameters to initial factory values
PWM:	Supported
RAM:	8GB
Flash:	32GB
Average / peak power:	50W / 80W
Cooling system:	Spontaneous cooling
Power:	DC 12V; AC 100-240V

System Parameters

Operating system:	Linux
Maximum storage:	50,000 facial templates
Recognition speed:	20 pictures / second

Algorithm Parameters

Maximum number of detected faces per frame:	20
Maximum number of recognized faces per frame:	8
Pose angle tolerance for face detection:	±60° (yaw, pitch, roll)
Pose angle tolerance for facial recognition:	±45° (yaw, pitch, roll)
Minimum face size for capturing:	30 * 30 pixel
Minimum face size for recognition:	70 * 70 pixel
Dynamic facial expression recognition:	Available
Facial recognition accuracy rate:	98.5%

Environmental Requirements

Applicable location:	Indoor
Storage temperature:	-40 ~ 70 °C
Working temperature:	0 ~ 45 °C
Working humidity:	10% ~ 90% (non-condensing)

