

Bitmain Sophon™ Edge Developer Board

Product Overview

The Bitmain Sophon™ Edge Developer Board is designed for bringing powerful Deep Learning capability to various type of applications through its quick prototype development. Sophon Edge Developer Board is powered by BM1880, which equips tailored TPU supporting DNN/CNN/RNN/LSTM operations and models. The edge developer board is compatible with Linaro 96boards while supporting modules for Arduino and Raspberry Pi. Developers can leverage off-the-shelf modules and develop cutting edge DL/ML applications, like facial detection and recognition, facial expression analysis, object detection and recognition, vehicle license plate recognition, voiceprint recognition, etc.

Product Features

- Supports DNN/CNN/RNN/LSTM models profiling, compiling and tuning
- Real-time inference in edge device
- Quickly deploy existing DNN/CNN/RNN/LSTM models or uniquely trained networks
- Features Bitmain Sophon™ BM1880 with energy efficient DNN/CNN/RNN/LSTM processing
- Compatible to 96Boards Consumer Edition Spec.
- Support Caffe, ONNX, Pytorch, Tensorflow framework

- Support ResNet50, Yolo V2, GoogleNet V1, MobileNet v1/v2, SSD300, Alexnet, VGG16... etc

Developer Board Specification

Processor	Sophon BM1880
System Memory	LPDDR4 1GB @ 3200Mhz
Flash Memory	8GB eMMC + micro SD card slot
Connectivity	Gigabit Ethernet(RJ-45), Wifi, Bluetooth
USB	USB 3.0 x 3 (support camera, U-disk..etc)
I/O Expansion	40-pin 96Boards low-speed expansion header
Audio	I2S x 2 (included in 40-pin header)
H.264 decoder, MJPEG encoder/decoder	1x 1080p @60fps or 2x 1080p @30fps H.264 decoder, 75fps for FHD images
Power	12V@2A
OS	Linux
Dimensions	85mm x 55mm

Toolkit:

- BMNet: Bitmain Compiler which can convert supported AI models to internal format accelerated by Sophon TPU.
- ONNC: ONNX Compiler which can convert ONNX format to internal format accelerated by Sophon TPU
- Quantization Tool: Convert FP32 to INT8 and support calibration function