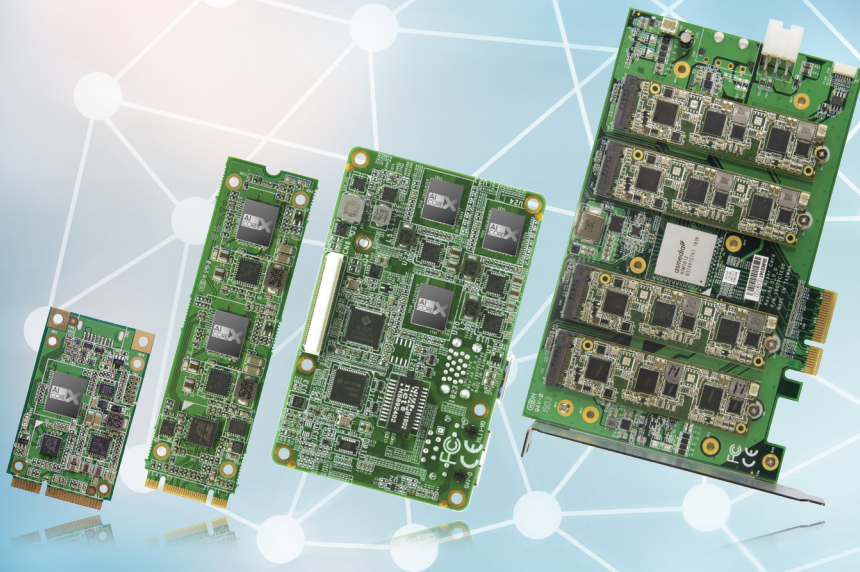




bridge the gap



# AI CORE X

Deep Neural Networks Hardware accelerators

UP AI Core X series, powered by Intel® Movidius™ Myriad™ X VPUs, drive the demanding workloads of modern computer vision and AI applications at ultra-low power.

## CONVOLUTIONAL NEURAL NETWORKS

What type of Deep Neural networks can I run?

### CAFFE

GoogleNet V1  
Age/Gender Net  
AlexNet  
SqueezeNet V1.1

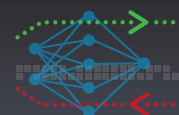
LeNet  
CaffeNet  
VGG Sournith VGG\_A  
MobileNet V1

### TENSORFLOW

Inception V1  
Inception V3  
Inception V4  
Inception ResNet V1 (facenet)  
Inception Resnet V2  
AlexNet  
MobileNet V1

## TRAINING VS INFERENCE

TRAINING



= bird ✓  
 = bird ✗

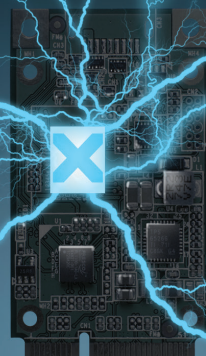
AI CORE X  
INFERENCE



= bird



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Movidius  
an Intel company

# UP AI Core X Neural Accelerator Family

	UP AI Core XM 2280 Myriad™ X 2485	UP AI Core X Myriad™ X 2485	UP AI Vision Plus X* Myriad™ X 2485	UP AI Core XP4 Myriad™ X 2485	UP AI Core XP8 Myriad™ X 2485
VPU	2	1	3	4	8
Amount of VPU	2	1	3	4	8
Form factor	M.2 2280 B+M key	mPCIe	Credit card	PCIe x4	PCIe x4
Dimensions	22 x 80 mm	30 x 51 mm	90 x 56.5 mm	111 x 170 mm	111 x 170 mm
Supported frameworks	Caffe, TensorFlow	Caffe, TensorFlow	Caffe, TensorFlow	Caffe, TensorFlow	Caffe, TensorFlow
Memory	4Gb LPDDR4 x2	4Gb LPDDR4 x1	4Gb LPDDR4 x3	4Gb LPDDR4 x4	4Gb LPDDR4 x8
Thermal	Heatsink with active fan	Fanless heatsink	Fanless heatsink	Heatsink with active fan	Heatsink with active fan
System requirements	x86_64 computer running Ubuntu 16.04, 1GB memory, 4GB Free storage, vacant expansion slot				
Software tool	OpenVINO toolkit R4 or above rev.				

An ultra-low power design	Performing high demanding tasks at 2.5W per chip	Neural Compute Engine	A dedicated hardware accelerator for running on-device deep neural network applications
Best performance and efficiency	Best performance per dollar and watts. Linear performance increase in multiple chip solutions	A small-area footprint	Very small footprint that can easily be integrated into existing products

\* Works exclusively with UP Core Plus & UP Xtreme

**10X\*\* HIGHER PERFORMANCE**  
On Deep Neural Networks

**4 TOPS\***  
Trillion Operations Per Second

**1 TERAOPS**  
1 Trillion Operations Per Second of Dedicated Neural Networks Compute

**ULTRA LOW POWER**

Qualified eco-partners for vertical markets

ARKESSA, intel, LoRa Alliance Member, HHS, enOcean alliance, Microsoft, BSQUARE, REX CONTROLS, beabloo, OLMATIC, emutex, IQF, QUETEL, RockTouch, BASLER, resin.io, REALSENSE

**UP AI EDGE**  
bridge the gap

**AI Development Kit**

- Custom AI Module
- Custom AI Single board computer
- Custom AI System

Qualified AI Software Partners

PROPHESSEE RETAVISION FOR MACHINES, deepomatic, aim2, XXII, sightcorp, CORTEXICA

UP is a brand of AAEON Technology Europe, an associate company of ASUS group, focused on Embedded Computing, Artificial Intelligence on the Edge, Internet Of Things and Industry 4.0. UP's mission is to spread the intelligence in all the world around us. UP bridges the gap between the world of prototypes and the world of high-grade mass-produced intelligent systems solutions. UP gives affordable and easily accessible and support of all the latest technologies to embedded industry.



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