FORCES DRIVING EMBEDDED AI

Beyond Moore’s Law — 1000x Every 10 Years

Computers Writing Software

AI-powered Autonomous Machines and Intelligent Systems are Here
JETSON IS GROWING AT A TREMENDOUS PACE

- **Jetson Developers**: 5x growth from 2017 to 2019
- **Jetson Customers**: 6x growth from 2017 to 2019
- **Ecosystem Partners**: 2.5x growth from 2017 to 2019
JETSON AGX XAVIER MODULE
World’s First AI Computer for Autonomous Machines

AI Server Performance in 30W | 15W | 10W
512 CUDA Tensor Cores | 2x NVDLA
8 core CPU
32 DL TOPS | 690 Gbps SerDes

$1099
Available now from Arrow Electronics and other partners worldwide
THE WORLD’S LEADING COMPANIES ADOPT JETSON AGX XAVIER

E-commerce

Mobility Machines

Construction

Industrial/Manufacturing

DNA Sequencing
AI SYSTEMS NEED A POWERFUL COMPUTER

1080p+ camera, LIDAR, ultrasonic, audio

2-10+ sensors per system

Multiple DNNs per sensor

OTA software updates
JETSON POWERS AI ACROSS INDUSTRIES

- Industrial
- Aerospace/Defense
- Construction
- Agriculture
- Healthcare
- Smart City

- Retail
- Logistics
- Delivery
- Inspection
- Service
- Collaboration
MASS-MARKET EDGE SYSTEMS NEED AI

- NETWORK VIDEO RECORDER
  200 million 1080p streams

- MACHINE VISION/AOI
  1 trillion product units per year require visual inspection

- HOME/SERVICE ROBOTS
  175 billion hours per year on household chores (US)

- AIOT
  80% of Enterprise IOT projects will use AI by 2022
ANNOUNCING:
JETSON NANO
Small, low-power AI Computer

128 CUDA Cores | 4 Core CPU
4 GB Memory
472 GFLOPs
70x45mm
5W | 10W
$129
## JETSON NANO SPECIFICATIONS

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td><strong>GPU</strong></td>
<td>128 Core Maxwell 472 GFLOPs (FP16)</td>
</tr>
<tr>
<td><strong>CPU</strong></td>
<td>4 core ARM A57 @ 1.43 GHz</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>4 GB 64 bit LPDDR4 25.6 GB/s</td>
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<tr>
<td><strong>Storage</strong></td>
<td>16 GB eMMC</td>
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<tr>
<td><strong>Video Encode</strong></td>
<td>4K @ 30, 4x 1080p @ 30, 8x 720p @ 30 (H.264/H.265)</td>
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<tr>
<td><strong>Video Decode</strong></td>
<td>4K @ 60, 2x 4K @ 30, 8x 1080p @ 30, 16x 720p @ 30 (H.264/H.265)</td>
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<tr>
<td><strong>Camera</strong></td>
<td>12 (3x4 or 4x2) MIPI CSI-2 DPHY 1.1 lanes (1.5 Gbps)</td>
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<tr>
<td><strong>Display</strong></td>
<td>HDMI 2.0 or DP1.2, eDP 1.4, DSI (1 x2), 2 simultaneous</td>
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<tr>
<td><strong>UPHY</strong></td>
<td>1 x1/2/4 PCIe, 1 USB 3.0</td>
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<tr>
<td><strong>Other I/O</strong></td>
<td>1xSDIO / 2xSPI / 3xI2C / UART / I2S / GPIOs</td>
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JETSON NANO RUNS MODERN AI

Inference

- TensorFlow
- PyTorch
- MxNet

Resnet50: 40 Img/sec
Inception v4: 30 Img/sec
VGG-19: 24 Img/sec
SSD Mobilenet-v2 (300x300): 18 Img/sec
SSD Mobilenet-v2 (960x544): 12 Img/sec
SSD Mobilenet-v2 (1920x1080): 3 Img/sec
Tiny Yolo: 12 Img/sec
Unet: 12 Img/sec
Super resolution: 10 Img/sec
OpenPose: 10 Img/sec

TensorFlow
PyTorch
MxNet

Not supported/DNR
JETSON NANO RUNS MODERN AI

Inference

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MAKERS AND AI

Makers change the world

30 million makers, developers, inventors, students WW

 Thousands of maker projects stand to benefit from AI
ANNOUNCING: JETSON NANO DEVELOPER KIT
$99 AI Computer

128 CUDA Cores | 4 Core CPU
472 GFLOPs
5W | 10W

Accessible and easy to use
JETSON NANO RESOURCES

Tutorials and Dev Forum
Create your first demo today
developer.nvidia.com/embedded/twodayoutdemo

Projects
Detailed instructions and source code

Accessories
Blinka library
OOB peripheral support

Deep Learning Institute
Training • Labs
Nanodegrees
nvidia.com/DLI
JETSON MEETUP GOES GLOBAL

13 COUNTRIES

35 EVENTS

4000+ ATTENDEES
THE JETSON FAMILY
From AI at the Edge to Autonomous Machines

Multiple devices - Same software

JETSON NANO
5 - 10W
0.5 TFLOPS (FP16)
45mm x 70mm
$129 AVAILABLE IN Q2

JETSON TX2
7 - 15W
1.3 TFLOPS (FP16)
50mm x 87mm
$299 - $749

JETSON AGX XAVIER
10 - 30W
10 TFLOPS (FP16) | 32 TOPS (INT8)
100mm x 87mm
$1099

AI at the edge

Fully autonomous machines
ANNOUNCING:
JETSON NANO DEVELOPER KIT
$99 AI Computer

128 CUDA Cores | 4 Core CPU
472 GFLOPs
5W | 10W

Available now at GTC
nvidia.com and distributors worldwide

Also: Jetson AGX Xavier $899 Jetson TX2 $299