



THE NVIDIA JETSON FAMILY FROM AI AT THE EDGE TO AUTONOMOUS MACHINES

The AI (artificial intelligence) revolution is transforming industries, reaching products that are smaller and more affordable than ever before. But many companies have been constrained by the challenges of size, power, and AI compute density—until now.

The high-performance, low-power NVIDIA® Jetson™ platform gives you real-time AI performance where you need it most—at the edge. Processing of complex data can now be done on-board small, power-efficient devices, so you can count on fast, accurate inference in network-constrained environments.

NVIDIA Jetson modules and developer kits—together with [NVIDIA JetPack™ SDK](#)—provide everything you need to develop, deploy, and manage applications for multiple use cases through one unified software architecture. With support for cloud-native technologies now available across the Jetson lineup and a suite of development tools designed for faster time-to-market, the NVIDIA Jetson platform dramatically reduces software development costs and enables scalable AI strategies for autonomous machines.

Product Family

The Jetson portfolio is designed to bring modern AI, deep learning, and inference to the edge. It includes the small form factor, lower-power [Jetson Nano™](#) module, the [Jetson TX2](#) series for increased AI and compute capabilities, the [Jetson Xavier NX](#) module delivering supercomputer performance in a small form factor, and the [Jetson AGX Xavier™ series](#) for fully autonomous machines and embedded systems. Each module includes a Jetson heterogeneous processing SoC, system memory, power management, and an I/O connector.

Industries

The NVIDIA Jetson platform can help you deploy AI to systems at the edge in multiple industries, including agriculture, [automated optical inspection](#), aviation, construction, intelligent IoT gateways, medical, robotics, smart cities, video analytics, and more.



Intelligent Video Analytics



Robotics



Drones



Agriculture, Construction



AIoT/Industrial Gateway



Machine Vision

	Jetson Nano	Jetson TX2 Series			Jetson Xavier NX	Jetson AGX Xavier
		TX2 4GB	TX2	TX2i		
AI Performance	0.5 TFLOPs (FP16)	1.3 TFLOPs (FP16)			21 TOPS (INT8)	32 TOPS (INT8)
GPU	NVIDIA Maxwell™ architecture with 128 NVIDIA CUDA® cores	NVIDIA Pascal™ architecture with 256 NVIDIA CUDA cores			NVIDIA Volta™ architecture with 384 NVIDIA CUDA cores and 48 Tensor cores	NVIDIA Volta™ architecture with 512 NVIDIA CUDA cores and 64 Tensor cores
CPU	Quad-core ARM® Cortex®-A57 MPCore	Dual-core NVIDIA Denver 1.5 64-Bit CPU and quad-core ARM® Cortex®-A57 MPCore			6-core NVIDIA Carmel ARM®v8.2 64-bit CPU 6 MB L2 + 4 MB L3	8-core NVIDIA Carmel ARM®v8.2 64-bit CPU 8 MB L2 + 4 MB L3
DLA	—	—			2x NVDLA engines	2x NVDLA engines
Memory	4 GB 64-bit LPDDR 1600 MHz - 25.6 GB/s	4 GB 128-bit LPDDR4 1600 MHz - 51.2 GB/s	8 GB 128-bit LPDDR4 1866 MHz - 59.7 GB/s	8 GB 128-bit LPDDR4 1600 MHz - 51.2 GB/s	8 GB 128-bit LPDDR4x 1600 MHz 51.2 GB/s	32 GB 256-bit LPDDR4x 2133 MHz 136.5 GB/s
Storage	16 GB eMMC 5.1	16 GB eMMC 5.1	32 GB eMMC 5.1		16 GB eMMC 5.1	32 GB eMMC 5.1
Boot Sources	eMMC, USB (recovery mode)	eMMC, USB (recovery mode)			QSPI, USB (recovery mode)	eMMC, USB (recovery mode)
Video Encode	1x 4K @ 30 (HEVC) 2x 1080p @ 60 (HEVC)	1x 4K @ 60 (HEVC) 3x 4K @ 30 (HEVC) 4x 1080p @ 60 (HEVC)			2x 4K @ 30 (HEVC) 6x 1080p @ 60 (HEVC) 14x 1080p @ 30(HEVC)	4x 4K @ 60 (HEVC) 16x 1080p @ 60 (HEVC) 32x 1080p @ 30 (HEVC)
Video Decode	1x 4K @ 60 (HEVC) 4x 1080p @ 60 (HEVC)	2x 4K @ 60 (HEVC) 7x 1080p @ 60 (HEVC) 20x 1080p @ 30 (HEVC)			2x 4K @ 60 (HEVC) 12x 1080p @ 60 (HEVC) 32x 1080p @ 30 (HEVC)	2x 8K @ 30 (HEVC) 6x 14k @ 60 (HEVC) 26x 1080p @ 60 (HEVC) 72x 1080p @ 30 (HEVC)
CSI Camera	12 lanes (3x4 or 4x2) MIPI CSI-2 D-PHY 1.1 (18 Gbps)	12 lanes (3x4 or 6x2) MIPI CSI-2 D-PHY 1.2 (30 Gbps), C-PHY 1.1 (41 Gbps)			14 lanes (3x4 or 6x2) MIPI CSI-2 D-PHY 1.2 (30 Gbps)	16 lanes (4x4 or 6x2 or 6x1) MIPI CSI-2 8 SLVS-EC D-PHY 1.2 (40 Gbps), C-PHY 1.1 (59 Gbps)
PCIe Controllers and Bandwidth	1 controller, 4 lanes, 40 GT/s	3 controller, 5 lanes, 50 GT/s			2 controller, 5 lanes, 80 GT/s	6 controller, 20 lanes, 640 GT/s
Power	5 W 10 W	7.5 W 15 W		10 W 20 W	10 W 15 W	10 W 15 W 30 W
Networking	10/100/1000 BASE-T Ethernet	10/100/1000 BASE-T Ethernet	10/100/1000 BASE-T Ethernet, WLAN	10/100/1000 BASE-T Ethernet	10/100/1000 BASE-T Ethernet	10/100/1000 BASE-T Ethernet
Mechanical	69.6 mm x 45 mm 260-pin edge connector	87 mm x 50 mm 400-pin connector			69.6 mm x 45 mm 260-pin edge connector	100 mm x 87 mm 699-pin connector

Ecosystem

Every autonomous machine has different needs, and NVIDIA Jetson is the platform to AI-power them all. The NVIDIA partner ecosystem builds on that hardware and software platform using a wide range of capabilities and domain expertise to bring innovative Jetson-powered end products and solutions to market.

The Jetson ecosystem is growing rapidly and designed to let you choose partners based on your specific application needs. NVIDIA supports a broad set of partners that include sensor and camera, hardware, and design services, as well as software partners that include software services, Cloud Service Providers (CSPs), tools and system software, Independent Software Vendors (ISVs), and distribution partners.

Learn More

Take a closer look at Jetson at <https://xenon.com.au/products-and-solutions/nvidia-jetson-embedded-platforms/>

Purchase a Developer Kit at <https://shop.xenon.com.au/product-category/artificial-intelligence/>

Contact NVIDIA at <https://shop.xenon.com.au/contact/>

Explore the Jetson ecosystem at developer.nvidia.com/embedded/community/ecosystem



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