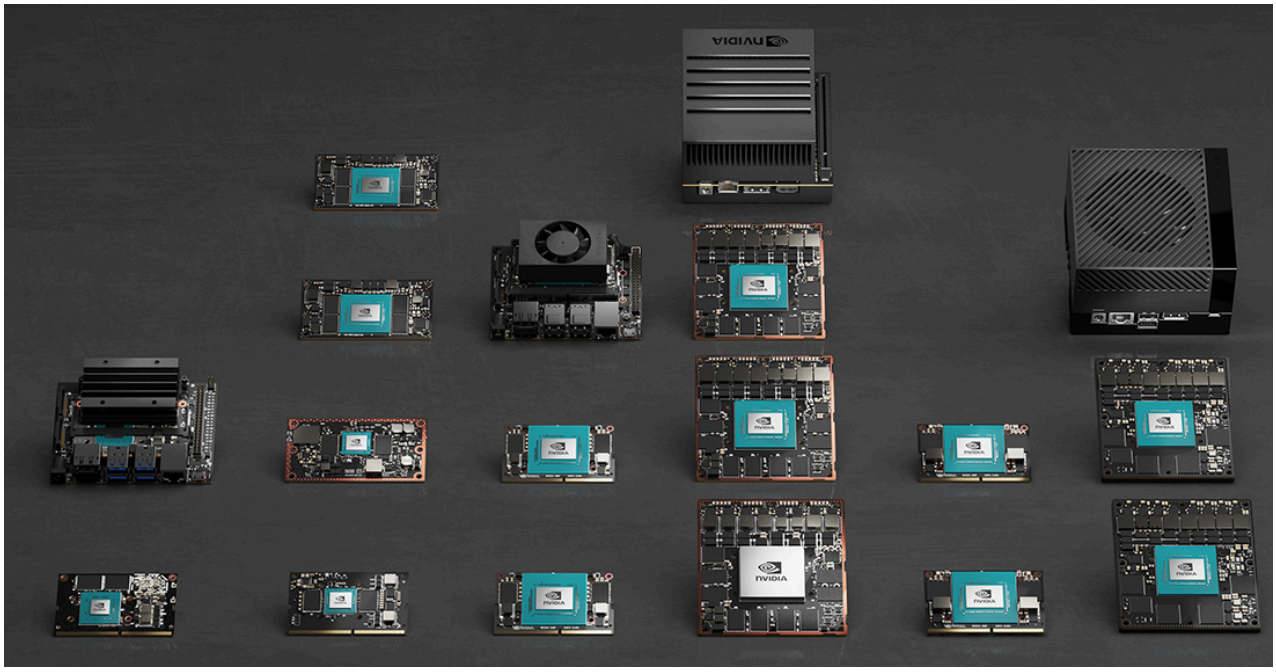
NVIDIA Jetson

Introduction



NVIDIA Jetson is the world's leading platform for autonomous machines and other embedded applications. It includes Jetson modules, which are small form-factor, high-performance computers, the NVIDIA JetPack™ SDK for accelerating software, and an ecosystem with sensors, SDKs, services, and products to speed up development. Jetson is compatible with the same AI software and cloud-native workflows used across other NVIDIA platforms and delivers the power-efficient performance customers need to build software-defined autonomous machines.

All Jetson modules are supported by the same software stack, enabling companies to develop once and deploy everywhere. The Jetson platform provides end-to-end acceleration for AI applications and accelerates your time to market with the same powerful NVIDIA technologies that power data center and cloud deployments.

Applications

For breakthrough products like Autonomous Mobile Robots (AMRs), AI-powered Network Video Recorders (NVRs), or Automated Optical Inspection (AOI) devices for high-precision manufacturing, the Jetson family has a solution to meet performance and budget needs across a broad range of applications.

The NVIDIA Jetson Nano Developer Kit is ideal for teaching, learning, and developing AI and robotics. It gives you incredible AI performance at a low price and makes the world of AI and robotics accessible to everyone with the exact same software and tools used to create breakthrough AI products across all industries.

Platforms

Jetson Orin

World's most powerful AI computer for energy-efficient autonomous machines. Jetson Orin includes Jetson AGX Orin Series, Jetson Orin NX Series, and Jetson Orin Nano Series.

NVIDIA Jetson AGX Orin modules deliver up to 275 TOPS of AI performance with power configurable between 15W and 60W. This gives you up to 8X the performance of Jetson AGX Xavier in the same compact form factor for robotics and other autonomous machine use cases.

Jetson Orin NX modules deliver up to 100 TOPS of AI performance in the smallest Jetson form factor, with power configurable between 10W and 25W. This gives you up to 3X the performance of Jetson AGX Xavier and up to 5X the performance of Jetson Xavier NX.

NVIDIA Jetson Orin Nano series modules deliver up to 40 TOPS of AI performance in the smallest Jetson form-factor, with power options between 5W and 15W. This gives you up to 80X the performance of NVIDIA Jetson Nano™ and sets the new standard for entry-level edge AI.

Jetson Xavier

Jetson Xavier is the first computer series designed specifically for autonomous machines. It includes Jetson AGX Xavier Series and Jetson Xavier NX Series.

The Jetson AGX Xavier 64GB module makes AI-powered autonomous machines possible, running in as little as 10W and delivering up to 32 TOPs. Customers can leverage the 64GB memory to store multiple AI models, run complex applications, and enhance their real time pipelines. As part of the world's leading AI computing platform, it benefits from NVIDIA's rich set of AI tools and workflows, enabling developers to quickly train and deploy neural networks. As the world's first computer designed specifically for autonomous machines, Jetson AGX Xavier has the performance to handle the visual odometry, sensor fusion, localization and mapping, obstacle detection, and path-planning algorithms that are critical to next-generation robots. Get GPU workstation-class performance with up to 32 TOPS of peak compute and 750 Gbps of high-speed I/O in a compact form factor.

Jetson Xavier NX brings up to 21 TOPs of accelerated AI computing to the edge in a small form factor module. It can run multiple modern neural networks in parallel and process data from multiple high-resolution sensors—a requirement for full AI systems. Jetson Xavier NX is production-ready and supports all popular AI frameworks.

Jetson TX2

The extended Jetson TX2 family of embedded modules provides up to 2.5X the performance of Jetson Nano in as little as 7.5W. Jetson TX2 NX offers pin and form-factor compatibility with Jetson Nano, while Jetson TX2, TX2 4GB, and TX2i all share the original Jetson TX2 form-factor. The rugged Jetson TX2i is ideal for settings including industrial robots and medical equipment.

Jetson Nano

The Jetson Nano module is a small AI computer that has the performance and power efficiency needed to run modern AI workloads, multiple neural networks in parallel, and process data from several high-resolution sensors simultaneously. This makes it the perfect entry-level option to add advanced AI to embedded products.

References

Advanced AI Embedded Systems, https://www.nvidia.com/en-us/autonomous-machines/embedded-systems/

Introducing Jetson Orin Nano, https://www.nvidia.com/en-us/autonomous-machines/embedded-systems/jetson-orin/

Jetson AGX Xavier Series, https://www.nvidia.com/en-us/autonomous-machines/embedded-systems/jetson-agx-xavier/