

NVIDIA Isaac Launches New Era of Autonomous Machines

Next-Gen Robotic Systems to Be Enabled by Jetson Xavier Computer and Isaac Robotics Software

Computex--NVIDIA today announced the availability of [NVIDIA® Isaac™](#), a new platform to power the next generation of autonomous machines, bringing artificial intelligence capabilities to robots for manufacturing, logistics, agriculture, construction and many other industries.

Launched at Computex 2018 by NVIDIA founder and CEO Jensen Huang, NVIDIA Isaac includes new hardware, software and a virtual-world robot simulator.

"AI is the most powerful technology force of our time," said Huang. "Its first phase will enable new levels of software automation that boost productivity in many industries. Next, AI, in combination with sensors and actuators, will be the brain of a new generation of autonomous machines. Someday, there will be billions of intelligent machines in manufacturing, home delivery, warehouse logistics and much more."

Jetson Xavier

At the heart of NVIDIA Isaac is [Jetson™ Xavier™](#), the world's first computer designed specifically for robotics. With more than 9 billion transistors, it delivers over 30 TOPS (trillion operations per second) -- more processing capability than a powerful workstation while using a third the energy of a lightbulb.

Jetson Xavier has six kinds of high-performance processors -- a Volta Tensor Core GPU, an eight-core ARM64 CPU, dual NVDLA deep learning accelerators, an image processor, a vision processor and a video processor. These enable dozens of algorithms to be processed concurrently and in real time for sensor processing, odometry, localization and mapping, vision and perception, and path planning. This level of performance is essential for a robot to take input from sensors, locate itself, perceive its environment, recognize and predict motion of nearby objects, reason about what action to perform and articulate itself safely.

Isaac Robotics Software

NVIDIA provides a toolbox for the simulation, training, verification and deployment of Jetson Xavier. This robotics software consists of:

- Isaac SDK - a collection of APIs and tools to develop robotics algorithm software and runtime framework with fully accelerated libraries.
- Isaac IMX - Isaac Intelligent Machine Acceleration applications, a collection of NVIDIA-developed robotics algorithm software.
- Isaac Sim - a highly realistic virtual simulation environment for developers to train autonomous machines and perform hardware-in-the-loop testing with Jetson Xavier.

Changing What's Possible for Variety of Industries

With this level of AI computing power at the edge, autonomous machines can perceive the world around them with superhuman capabilities, detecting and recognizing their surroundings from sensors of all kinds.

Manufacturing robots can work safely alongside humans and adapt to changes. Logistics robots can efficiently move and manage inventory and deliver products to homes. Service robots can improve the retail experience and assist the sick and elderly.

Availability

The NVIDIA Jetson Xavier developer kit, which includes the Isaac robotics software, will be priced at \$1,299, with early access starting in August from distributors worldwide.

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About NVIDIA

[NVIDIA](#)'s (NASDAQ:NVDA) invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined modern computer graphics and revolutionized parallel computing. More recently, GPU deep learning ignited modern AI — the next era of computing — with the GPU acting as the brain of computers, robots and self-driving cars that can perceive and understand the world. More information at <http://nvidianews.nvidia.com/>.

Certain statements in this press release including, but not limited to, statements as to: the benefits, impact, abilities, performance and availability of NVIDIA Isaac, Jetson Xavier and NVIDIA's Isaac robotics software; NVIDIA Isaac powering the next generation of autonomous machines and bringing artificial intelligence to many industries; AI being the most powerful technology force of our time, it enabling new levels of software automation to boost productivity in many industries, it becoming the brain of a new generation of autonomous machines, and that there someday will be billions of intelligent machines in manufacturing, home delivery, warehouse logistics and more; AI computing enabling autonomous machines to perceive the world around them, and enabling robots to work safely with humans, adapt to changes, move and manage inventory and deliver products to homes, improve the retail experience and assist the sick and elderly are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the reports NVIDIA files with the Securities and Exchange Commission, or SEC, including its Form 10-Q for the fiscal period ended April 29, 2018. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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