

NVIDIA Teams with Amazon Web Services to Bring AI to Millions of Connected Devices

AWS IoT Greengrass Enables NVIDIA Jetson to Seamlessly Deploy AI for Edge Devices

GPU Technology Conference--NVIDIA today announced a collaboration with Amazon Web Services (AWS) IoT on [NVIDIA® Jetson™](#) to enable customers to deploy AI and deep learning to millions of connected devices.

This joint solution enables models to be easily created, trained and optimized on AWS, then deployed to Jetson-powered edge devices using AWS IoT Greengrass.

The NVIDIA Jetson platform offers AI at the edge with high-performance and power-efficient computing. Applications include autonomous machines and smart cameras for industries such as retail, manufacturing, agriculture and more.

AWS IoT Greengrass seamlessly extends AWS to edge devices, including machine learning inference, so they can act locally on the data they generate while still using the cloud for management, analytics and durable storage. Jetson-powered devices perform inference at the edge to take near real-time action using AWS IoT Greengrass. Data is then sent back to machine learning services such as Amazon SageMaker to improve model accuracy.

Jetson comes with a comprehensive set of software tools and SDKs, including [NVIDIA JetPack™](#). It also supports multiple frameworks such as MXNet, Caffe, TensorFlow and PyTorch, so developers can use these algorithms to quickly deploy real-world applications.

"Jetson is a high-performance computer that's built on the same architecture and unified software that powers the world's fastest supercomputers," said Deepu Talla, vice president and general manager of Autonomous Machines at NVIDIA. "We offer the new [Jetson Nano](#) all the way to Jetson AGX Xavier, so IoT devices can now scale from small IoT devices to powerful IoT gateways."

Jetson and AWS IoT Greengrass make it easy to deploy machine learning models optimized to run on IoT devices. Customers can save bandwidth and cost by running near real-time inference directly on a Jetson-powered device instead of sending data to the cloud first.

A Variety of Use Cases Made Smarter

Jetson brings AI to applications that were once unimaginable. In high-precision agriculture, Jetson-powered cameras running AWS IoT Greengrass can target weeds in near real time, capture previously unidentified weeds, upload anomalies to the cloud, and retrain and deploy the model quickly. This powerful technology combination makes agriculture smarter and more efficient to help feed the world's growing population.

For automated optical inspection, product defects can be quickly identified on factory floors to avoid delays on manufacturing assembly lines. This increases productivity and minimizes losses to improve overall operational efficiency.

In retail, Jetson-powered devices can monitor inventory, customer behavior, and checkout and process data on the edge, using AWS IoT Greengrass to deploy trained neural networks. This brings operational efficiencies and scale to the retail industry.

AWS will be showcasing a variety of IoT, machine learning and robotics demonstrations powered by Jetson devices at [NVIDIA GTC](#) this week. Stop by AWS booth 1221 or the Jetson pavilion 1543 and 1545 to see AWS IoT Greengrass and Jetson in action.

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: NVIDIA collaborating with AWS to enable customers to deploy AI and deep learning to millions of connected devices; AWS IoT Greengrass enabling NVIDIA Jetson to deploy AI for edge devices and models to be created, trained and deployed to Jetson-powered edge devices; the benefits, impact, performance and abilities of the NVIDIA Jetson platform and AWS IoT Greengrass, including in high-precision agriculture, automated optical inspection and retail; Jetson being built on the same architecture and software that powers the world's fastest computers; NVIDIA's Jetson offerings that enable IoT to scale from small devices to powerful gateways; Jetson and AWS IoT Greengrass making it easy to deploy machine learning models optimized to run on IoT devices and their ability to save customers bandwidth and cost by running inference on Jetson-powered devices; Jetson bringing AI to applications that were once unimaginable; and AWS' showcase of products at GTC 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 most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. 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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