AI SUPERCOMPUTING ON LOCATION

Avitas Systems, a GE Venture Uses NVIDIA Deep Learning for Industrial Inspection

From AI supercomputer to robots, Avitas Systems uses NVIDIA DGX[®] Systems[™] to revolutionize the inspection of industrial assets. It is AI-infusing its service to increase human safety, protect the environment, and yield cost savings for businesses.





Deep Learning Data Center

Avitas Systems is delivering infrastructure inspection services to the oil and gas, energy, and transportation industries using AI-powered robots that can go places unfit for human workers. They use deep neural networks developed on NVIDIA DGX-1[™] in the data center, and easily extended to NVIDIA DGX Station[™] in the field.

Al-Enabled Robots

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GPU-accelerated AI is opening the door for a new era of smart machines. Avitas Systems's AI-enabled robots collect sensor data in the form of video and images for deep learning inferencing, allowing them to inspect industrial assets from the air, on the surface, and underwater, working in locations unsafe for humans.

On location Al Supercomputer

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Industrial sites are sometimes thousands of miles from data center infrastructure. So when high-speed connectivity is out of reach, Avitas Systems brings AI to the location, using NVIDIA DGX Station[™] —the deep learning supercomputer, right on location, to run inferencing on data collected from robots.

Machines that Learn

The Avitas Systems team continually re-tunes and refines its AI, making its services smarter with every second of captured data. NVIDIA DGX Systems use this flow of information to re-train Avitas Systems models and continually improve inspection results efficiency and accuracy.

BY THE NUMBERS

Decrease in Annual Inspection Cost UP TO 1 <u>5 0/0</u>

Reduction in Maintenance Downtime Faster Turnaround on Inspection

* Numbers Projected Based on Avitas Systems

HOW IT'S DONE



NVIDIA DGX Systems help Avitas Systems develop intelligent inspection services using autonomous and semi-autonomous robots, including drones, robotic crawlers, and autonomous underwater vehicles. Avitas Systems uses deep learning to intelligently detect corrosion, leaks, fugitive emissions, and other defects imperceptible to the human eye with incredible accuracy that continually DGX Systems provide supercomputing power in the data center and the field, that combined with NVIDIA's specially-optimized deep learning frameworks, gives Avitas Systems an advantage over traditional inspection methods.

improves.

Using our latest NVIDIA DGX Systems to help train robots and better predict industrial defects, Avitas Systems has a profound impact on inspection by increasing worker safety, protecting the environment, and leading to incredible cost savings for companies.

Jim McHugh, Vice President and General Manager at NVIDIA



About Avitas Systems

Avitas Systems is a GE Venture advancing the inspection services industry across oil and gas, transportation, and energy sectors with predictive analytics, robotics, and artificial intelligence. Its solutions increase safety and decrease inspection costs by providing state-of-the-art robotic-based autonomous and semi-autonomous inspection management, smart scheduling, and a cloud-based platform for inspection data.

Learn more: www.avitas-systems.com

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About NVIDIA

NVIDIA's 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.

Learn more: www.nvidia.com/dgx

NVIDIA

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