

AT&T Supercharges Operations With NVIDIA AI

Telecoms Giant Adopts NVIDIA AI to Process Data More Efficiently, Optimize Service-Vehicle Routing, Create Digital Twins and Avatars

GTC—AT&T Corp. and NVIDIA today announced a collaboration in which AT&T will continue to transform its operations and enhance sustainability by using NVIDIA-powered AI for processing data, optimizing service-fleet routing and building digital avatars for employee support and training.

AT&T is the first telecommunications provider to explore the use of a full suite of NVIDIA AI offerings. This includes enhancing its data processing using the [NVIDIA AI Enterprise](#) software suite, which includes the NVIDIA RAPIDS Accelerator for Apache Spark; enabling real-time vehicle routing and optimization with [NVIDIA cuOpt](#); adopting digital avatars with [NVIDIA Omniverse Avatar Cloud Engine](#) and NVIDIA Tokkio; and utilizing conversational AI with NVIDIA Riva.

“We strive each day to deliver the most efficient global network, as we drive towards net zero emissions in our operations,” said Andy Markus, chief data officer at AT&T. “Working with NVIDIA to drive AI solutions across our business will help enhance experiences for both our employees and customers.”

“Industries are embracing a new era in which chatbots, recommendation engines and accelerated libraries for data optimization help produce AI-driven innovations,” said Manuvir Das, vice president of Enterprise Computing at NVIDIA. “Our work with AT&T will help the company better mine its data to drive new services and solutions for the AI-powered telco.”

The Data Dilemma

AT&T, which has pledged to be carbon neutral by 2035, has instituted broad initiatives to make its operations more efficient. A major challenge is optimizing energy consumption while providing network infrastructure that delivers data at high speeds.

AT&T processes more than 590 petabytes of data on average a day. That is the equivalent of about 6.5 million 4K movies or more than 8x the content housed in the U.S. Library of Congress if all its collections were digitized.

Telecoms aiming to reduce energy consumption face challenges across their operations. Within networks, the radio access network (RAN) consumes 73% of energy, while core network services, data centers and operations use 13%, 9% and 5%, respectively, [according to the GSMA](#), a mobile industry trade group.

AT&T first adopted NVIDIA RAPIDS Accelerator for Apache Spark to capitalize on energy-efficient GPUs across its AI and data science pipelines. This helped boost its operational efficiency across everything from training AI models and maintaining network quality and optimization, to reducing customer churn and improving fraud detection.

Of the data and AI pipelines targeted with Spark-RAPIDS, AT&T saves about half of its cloud computing spend and sees faster performance, while enabling reductions in its carbon footprint.

Enhanced Field Dispatch Services

AT&T, which operates one of the largest field dispatch teams to service its customers, is currently testing NVIDIA cuOpt software to enhance its field dispatch capabilities to handle more complex technician routing and optimization challenges.

Routing requires trillions of computations to factor in a variety of factors, from traffic and weather conditions to customer change of plans or a technician’s skill level, where a complicated job might then require an additional truck roll.

In early trials, cuOpt delivered solutions in 10 seconds, while the same computation on x86 CPUs took 1,000 seconds. The results yielded a 90% reduction in cloud costs and allowed technicians to complete more service calls each day. NVIDIA cuOpt allows AT&T to run nearly continuous dispatch optimization software by combining NVIDIA RAPIDS with local search heuristics algorithms and metaheuristics such as Tabu search.

Pleasing Customers, Speeding Network Design

As part of its efforts to improve productivity for its more than 150,000 employees, AT&T is moving to adopt NVIDIA Omniverse ACE and NVIDIA Tokkio, cloud-native AI microservices, workflows and application frameworks for developers to easily build, customize and deploy interactive avatars that see, perceive, intelligently converse and provide recommendations to enhance the customer service experience.

For conversational AI, the carrier also uses the NVIDIA Riva software development kit and is examining other customer service and operations use cases for digital twins and generative AI.

AT&T also is [taking advantage](#) of fast 5G and its fiber network to deliver [NVIDIA GeForce NOW™](#) cloud gaming at 120 frames per second on mobile and 240 FPS at home.

About NVIDIA

Since its founding in 1993, [NVIDIA](#) (NASDAQ: NVDA) has been a pioneer in accelerated computing. The company's invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined computer graphics, ignited the era of modern AI and is fueling the creation of the metaverse. NVIDIA is now a full-stack computing company with data-center-scale offerings that are reshaping industries. More information at <https://nvidianews.nvidia.com/>.

Certain statements in this press release including, but not limited to, statements as to: the benefits, impact, availability and performance of our products and technologies, including NVIDIA AI Enterprise, NVIDIA RAPIDS Accelerator, NVIDIA cuOpt, NVIDIA Omniverse Avatar Cloud Engine, NVIDIA Tokkio, NVIDIA Riva and NVIDIA GeForce NOW; the benefits, impact, availability and progress of collaboration with AT&T; industries embracing a new era in which chatbots, recommendation engines and accelerated libraries for data optimization help produce AI-driven innovations 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.

© 2023 NVIDIA Corporation. All rights reserved. NVIDIA, the NVIDIA logo, RAPIDS, cuOpt, GeForce NOW and NVIDIA Omniverse are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated. Features, pricing, availability and specifications are subject to change without notice.

Cliff Edwards
NVIDIA Corporation
+1-415-699-2755
cliffe@nvidia.com