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GE HealthCare & AWS Partner to Accelerate Healthcare Transformation with Generative AI

- GE HealthCare selects AWS as its strategic cloud provider to deliver entirely new, purpose-built foundation models designed to fast-track the development of innovative healthcare applications
- GE HealthCare plans to train and deploy clinical foundation models on AWS's machine learning and generative AI technologies to help healthcare providers expedite clinical and operational workflows to improve delivery of care

GE HealthCare (Nasdaq: GEHC) and Amazon Web Services, Inc. (AWS), an Amazon.com, Inc. company (Nasdaq: AMZN), today announced a strategic collaboration to develop purpose-built foundation models and generative artificial intelligence (AI) applications designed to help clinicians improve medical diagnostics and patient care. GE HealthCare has selected AWS as its strategic cloud provider and plans to use its healthcare and generative AI services to build and implement new, versatile foundation models to transform the future of healthcare. These new generative AI-powered workflows are intended to fast-track the delivery of innovations to streamline healthcare operations, increase diagnostic and screening accuracy, enhance outcomes, lower access hurdles, and promote equitable care, thereby easing provider workload and accelerating industry innovation.

"GE HealthCare has been pioneering medical technology for more than a century. With more than one billion patients around the world touched by our products, we play an important part in improving the quality of care and have a responsibility to continue pushing the boundaries of what's possible to enable precision care," said Peter Arduini, President and CEO, GE HealthCare. "This new collaboration with AWS allows us to build on our legacy of innovation by embracing the power of AI to expedite the creation of medical technologies that we expect will redefine clinical workflows and the delivery of care."

GE HealthCare intends to utilize Amazon Bedrock, a fully managed service that provides secure access to the industry's leading foundation models, to create and deploy bespoke generative AI applications, amplifying the advantages of generative AI for their customers. Leveraging Bedrock's enterprise-grade security and privacy along with a broad selection of industry-leading foundation models, GE HealthCare plans to build and scale its own proprietary generative AI applications for healthcare use cases with an aim to enhance efficiency, care delivery, and the patient experience.

"With AWS, GE HealthCare plans to use the cloud to deliver more personalized, intelligent, and efficient care," said Matt Garman, CEO of AWS. "GE HealthCare is putting generative AI at the heart of their innovation, accelerated by the investments we have made in healthcare-specific cloud services and generative AI capabilities that provide best-in-class security, data privacy, and access to the latest state-of-the-art foundation models. With AWS as their strategic cloud provider, GE HealthCare can build transformative clinical foundation models and applications for the healthcare industry."

GE HealthCare's internal developers are planning to use Amazon Q Developer, a generative AI–powered assistant to accelerate software development by generating real-time code suggestions, securely completing tasks, and more. The company also expects to use Amazon Q Business to explore the intersection of multi-modal clinical and operational data with an aim of reducing the cognitive burden on physicians, enabling personalized care, and increasing efficiency. Leveraging AWS's generative AI technology, GE HealthCare expects to reduce clinical application development cycles from years to months and to accelerate the delivery of new healthcare solutions.
"By combining generative AI with our deep expertise, we're igniting a new era in healthcare," said. Dr. Taha Kass-Hout, Global Chief Science and Technology Officer at GE HealthCare. "Our work with AWS is a big step towards helping clinicians make medical care simpler, more efficient, and deeply personalized. It's about advancing the way we care for people everywhere, one innovative solution at a time."

Additionally, GE HealthCare plans to modernize its suite of applications with its own foundation models developed on Amazon SageMaker, a fully managed service to build, train, and deploy machine learning (ML) models. By developing its own foundation models specialized for medical use cases, GE HealthCare intends to accelerate the development and deployment of web-based medical imaging applications and integrating

these foundation models to drive efficiency, interoperability, and improve user experiences across the company's equipment and software solutions. Customers could use GE HealthCare's generative AI-powered applications, that will integrate with AWS HealthLake and AWS HealthImaging, to quickly and securely analyze various types of patient data, leading to improved clinical efficiency and better patient care.

"We are optimistic about the ways in which generative AI will be able to transform healthcare for the better, and we look forward to seeing the new tools and applications that result from collaborations across industry and health care," said Dr. Keith Dreyer, Chief Data Science Officer, Mass General Brigham and leader of the Mass General Brigham AI business. "As healthcare systems like Mass General Brigham lean into AI to accelerate their work, we see great potential for new foundation models that utilize advanced technologies."

The healthcare sector is responsible for about 30%[1] of the world's data generation, however, 97%[2] of this data goes largely untapped due to its unstructured nature. This collaboration will focus on the development of multi-modal foundation models designed to analyze a vast array of unstructured medical data (e.g., records, reports, and images) and provide precise, adaptable insights for a multitude of healthcare applications. Unlike traditional ML, these models can be built to interpret data across various diseases and tasks simultaneously.

GE HealthCare has been investing in AI for years. For the third year in a row, GE HealthCare topped a U.S. Food and Drug Administration (FDA) list of AI-enabled device authorizations, with 72.[3] Its recent foundation model work includes a project focused on an advanced ultrasound image segmentation tool. Utilizing foundation model technology, this research tool has demonstrated great proficiency in isolating and identifying anatomical structures with over 90% accuracy, requiring little human input.[4] Its key feature is its generalization capability, which can segment anatomical structures, including fetal heads and breast lesions, which were not part of the foundation model's initial training set. This advanced feature demonstrates the model's ability to be applied to uses cases beyond what it was originally trained for.

To learn more about GE HealthCare's digital solutions and healthcare transformation, visit here.

Source & Image Credit: GE Healthcare

Reference:

1 RBC: https://www.rbccm.com/en/gib/healthcare/episode/the_healthcare_data_explosion
2 Deloitte 2023. A holistic approach to unlock the value of health data. https://www2.deloitte.com/content/dam/Deloitte/be/Documents/life-sciences-health-care/Health%20Data.pdf
3 FDA: https://www.fda.gov/medical-devices/software-medical-device-samd/artificial-intelligence-and-machine-learning-aiml-enabled-medical-devices
4 Technology in development that represents ongoing research and development efforts. These technologies are not products and may never become products. Not for sale. Not cleared or approved by the U.S. FDA or any other global regulator for commercial availability.

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