NVIDIA Cambridge-1 AI Supercomputer Expands Reach to Researchers via the Cloud

NVIDIA builds on the success of Cambridge-1 by joining it to NVIDIA DGX Cloud, enabling broader access across more domains.

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Scientific researchers need massive computational resources that can support exploration wherever it happens. Whether they're conducting groundbreaking pharmaceutical research, exploring alternative energy sources or discovering new ways to prevent financial fraud, accessible state-of-the-art AI computing resources are key to driving innovation. This new model of computing can solve the challenges of generative AI and power the next wave of innovation.

Cambridge-1 , a supercomputer NVIDIA launched in the U.K. during the pandemic, has powered discoveries from some of the country's top healthcare researchers. The system is now becoming part of NVIDIA DGX Cloud to accelerate the pace of scientific innovation and discovery — across almost every industry.

As a cloud-based resource, it will broaden access to AI supercomputing for researchers in climate science, autonomous machines, worker safety and other areas, delivered with the simplicity and speed of the cloud, ideally located for the U.K. and European access.

DGX Cloud is a multinode AI training service that makes it possible for any enterprise to access leading-edge supercomputing resources from a browser. The original Cambridge-1 infrastructure included 80 NVIDIA DGX systems; now it will join with DGX Cloud, to allow customers access to world-class infrastructure.

Academia, startups and the UK's large pharma ecosystem used the Cambridge-1 supercomputing resource to accelerate research and design new approaches to drug discovery, genomics and medical imaging with generative AI in some of the following ways:

InstaDeep, in collaboration with NVIDIA and the Technical University of Munich Lab, developed a 2.5 billion-parameter LLM for genomics on Cambridge-1. This project aimed to create a more accurate model for predicting the properties of DNA sequences.

King's College London used Cambridge-1 to create 100,000 synthetic brain images — and made them available for free to healthcare researchers. Using the open-source AI imaging platform MONAI , the researchers at King's created realistic, high-resolution 3D images of human brains, training in weeks versus months.

Oxford Nanopore used Cambridge-1 to quickly develop highly accurate, efficient models for base calling in DNA sequencing. The company also used the supercomputer to support inference for the ORG.one project, which aims to enable DNA sequencing of critically endangered species

Peptone , in collaboration with a pharma partner, used Cambridge-1 to run physics-based simulations to evaluate the effect of mutations on protein dynamics with the goal of better understanding why specific antibodies work efficiently. This research could improve antibody development and biologics discovery.

Relation Therapeutics developed a large language model which reads DNA to better understand genes, which is a key step to creating new medicines. Their research takes us a step closer to understanding how genes are controlled in certain diseases.

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