Turku AMK

NVIDIA DGX Systems creates new opportunities in complex AI-based research

SUMMARY

Challenge
To find more efficient way to a complex AI-based research at the School of IT in Turku University of Applied Sciences.

Solution
NVIDIA DGX is an AI computing data management system produced by NVIDIA, a global leader in AI computing, together with Proact Finland.

Benefits
- significant time saving for researchers
- easier testing and learning
- cost-efficient in use
- adequate software support
- enables better research and new innovations

Turku University of Applied Sciences is one of the biggest University of Applied Sciences in Finland, engaging over 10 000 students in total. In addition to diverse degree opportunities, Turku University of Applied Sciences occupies several research groups that create science and innovations based on the latest trends in their respective fields.

Time is money, even when it comes to neural networks

"Training the neural networks with a regular computer is very slow. Every single cycle takes typically hundreds of hours", says Tero Reunanen, Head of Education & Research, School of IT. "Searching for ways to make the processes go smoother and in a more efficient way, we decided to make an investment in NVIDIA DGX – a super-computer that had already proven itself in complex AI-based research."

Success, and even love, at first sight

Soon as the new NVIDIA DGX™ System (which includes eight NVIDIA V100 GPUs) was brought in the Turku University of Applied Sciences, the results began to show. NVIDIA DGX immediately proved to be far more efficient than its predecessors. In addition to the computer's ability to save time it made testing and learning easier while showing capability to assist researchers in their work towards better research and new innovations.

While the School of IT was familiar with NVIDIA products, they did not have experience with NVIDIA DGX Systems or any such products. The trust, determination and a bit of courage that was needed in making the investment decision certainly paid off.

The data, and making the most of it

Alternatives were certainly available: nowadays, computing can be purchased even as a cloud-based service.

"As we have a DGX System integrated with our own hardware, testing is much easier than with what would be possible with cloud-based solutions, Tero Reunanen mentions. "In addition, we are able to gather more experience-based data about its performance."

In this particular research area, creating better outcomes and innovations requires a system that is capable of manage and organize vast amounts of data. To produce quality AI-based research, the focus should be in the performance of the system.

The advanced and flexible support from Proact and NVIDIA has significantly contributed to the success of the project. The School's own team obviously assists other researchers and clients who may utilize the system, but the software support from NVIDIA, as well as a contact person in Proact that can pay a visit on site whenever necessary, are a big help.

Tero Reunanen believes that nearly everyone working in research and development and dealing with massive amounts of data could benefit from NVIDIA DGX Systems.

Looking ahead with confidence

Extremely efficient computers such as NVIDIA DGX Systems that can handle massive amounts of data will play even bigger role in the future of AI-based research.

"It goes without saying that we need these kinds of systems to even create new research in this area, Tero Reunanen emphasizes. "I am extremely enthusiastic for what the future beholds. AI will gradually penetrate all industries, machines like NVIDIA DGX optimize many things and make even more decisions, about even more critical issues."

Thanks to the School of IT in Turku University of Applied Sciences and its partner organizations, at least in their neck of the woods people and machines are building the future together. Proact is now competent in this area and can help clients handle massive amounts of data via integrating supercomputers into their current IT infrastructure for health and research purposes.

Proact

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