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## **HPC-cloud convergence is the missing link between scientific computing and applied-AI**

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First, HPC infrastructures are embracing GPUs for their superior performance-per-watt ratio against general-purpose multicores. Second, the next-generation scientific workflows are integrating AI-based steps for their accuracy in approximating and analyzing complex phenomena. Third, AI and specifically Machine Learning (ML), is a perfect workload for GPUs in terms of performance and development time. Today, we cannot still close the circle seamlessly running AI-enabled scientific workloads into HPC infrastructures because their system software and development tools are not designed for modern workloads, such as ML frameworks designed for the cloud. HPC-cloud convergence is likely to bridge the gap. In the talk, we will present Streamflow and CAPIO, two development tools for HPC-cloud convergence.

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