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The VISPA Internet-Platform in Deep Learning Applications

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Latest developments in many research fields indicate that deep learning methods have the potential to significantly improve physics analyses.
They not only enhance the performance of existing algorithms but also pave the way for new measurement techniques that are not possible with conventional methods.
As the computation is highly resource-intensive both dedicated hardware and software are required to obtain results in a reasonable time which poses a substantial entry barrier.
We provide direct access to this technology after a revision of the internet platform VISPA to serve the needs of researches as well as students.
VISPA equips its users with working conditions on remote computing resources comparable to a local computer through a standard web browser.
For providing the required hardware resources for deep learning applications we extend the CPU infrastructure with a GPU cluster consisting of 20 GeForce GTX 1080 cards.
Direct access through VISPA, preinstalled analysis software and a workload management system allowed us on one hand to support more than 100 participants in a workshop on deep learning and in corresponding university classes and on the other hand to achieve significant progress in particle and astroparticle research.
We present the setup of the system and report on the performance and achievements in the above mentioned usecases.

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