

Call for contribution of expertise

CERN invites collaborating institutes and universities to contribute the expertise of their qualified employees to the activity described below.

Start date: Asap

Duration: Six months, possible extension (up to three years) to be discussed as project progresses.

Project/Activity: Optimisation and Benchmarking of Machine Learning/Deep learning algorithms on accelerated platforms

Detailed description of Activity:

CERN openlab is running pilot projects to investigate the potential of Google TPUs on a set of LHC workloads. In this context, we are looking for a suitable candidate for a six-month project to test and optimize Machine Learning/ Deep Learning algorithms (specifically Generative Adversarial Networks) on Google TPUs and run benchmarks of typical LHC Experiment workloads on this new architecture.

Profile: Bachelor degree in computing, IT engineering or related field.

The expert will have knowledge of and working experience with standard ML/DL frameworks and tools (TensorFlow, Keras, PyTorch, etc.), general knowledge of Deep Learning algorithms, and possibly specific knowledge of using GAN algorithms (for example for image generation or simulation). Familiarity with High-Energy Physics workflows and distributed computing systems architectures (clouds, container technologies, monitoring tools, etc.) is a plus

Specific details: Opportunity to work with the CERN openlab team in a project sponsored by Google. Good working knowledge of English.

Status at CERN: Associated Member of the Personnel (Project Associate).

Conditions in accordance with CERN's Staff Rules and Regulations and Administrative Circular No. 11. Subsistence allowance is payable by CERN to cover the additional cost arising from the individual's (and, as applicable, their family's) stay in the local area while performing activities at CERN.

Option: Collaborating institutes and universities can propose to support the activity of the qualified employees participating in this "Call for contribution of expertise" with students or other employees. Their status and Subsistence allowance when applicable will be adapted to their relation with their institutions

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Reference: 2019_Q4_31_OPENLAB