IML Machine Learning Working Group - Parallelized/Distributed Machine Learning

Report of Contributions

https://indico.cern.ch/e/605622

Contribution ID: **1** Type: **not specified**

News and group updates

Friday, 24 February 2017 15:00 (10 minutes)

Presenters: MONETA, Lorenzo (CERN); FLORIS, Michele (CERN); SEYFERT, Paul (Universita & INFN, Milano-Bicocca (IT)); Dr GLEYZER, Sergei (University of Florida (US)); SCHRAMM, Steven Randolph (Universite de Geneve (CH))

Contribution ID: **7** Type: **not specified**

Internally-Parallelized Boosted Decision Trees

Friday, 24 February 2017 15:10 (20 minutes)

Presenter: CARNES, Andrew Mathew (University of Florida (US))

Contribution ID: **8** Type: **not specified**

Rapid development platforms for machine learning

Friday, 24 February 2017 15:30 (20 minutes)

Presenter: Dr LOWE, Andrew (Hungarian Academy of Sciences (HU))

Contribution ID: **9** Type: **not specified**

Distributed Deep Learning using Apache Spark and Keras (see materials)

Friday, 24 February 2017 15:50 (5 minutes)

Data parallelism is an inherently different methodology of optimizing parameters. The general idea is to reduce the training time by having n workers optimizing a central model by processing n different shards (partitions) of the dataset in parallel. In this setting we distribute n model replicas over n processing nodes, i.e., every node (or process) holds one model replica. Then, the workers train their local replica using the assigned data shard. However, it is possible to coordinate the workers in such a way that, together, they will optimize a single objective during training and as a result, reduce the wall clock training time. There are several approaches to achieve this, and these will be discussed in greater detail in the materials below.

Presenter: HERMANS, Joeri (Maastricht University (NL))

Contribution ID: **10** Type: **not specified**

Parallelization in Machine Learning with Multiple Processes

Friday, 24 February 2017 15:55 (30 minutes)

Presenters: GUTIERREZ, Gerardo (ITM); ZAPATA MESA, Omar Andres (University of Antioquia & Metropolitan Institute of Technology)

Contribution ID: **11** Type: **not specified**

Minutes

Friday, 24 February 2017 16:25 (1 minute)