



Contribution ID: 221

Type: **Workshop/BoF proposal**

Optimized Artificial Intelligence Solutions by Intel

Thursday, 6 December 2018 11:00 (1h 30m)

Description:

Join us for one day of hands-on sessions on Artificial Intelligence, and Machine & Deep Learning. Experience a unique opportunity to test out the latest performance optimized frameworks and tools, advanced coding knowledge and best practices to get started implementing AI guided by experts from Intel®.

Target Audience:

Data Scientist, application developers and HPC benchmarkers targeting the deep learning and machine learning domain.

Prerequisites:

Beginning to intermediate level of domain AI knowledge.
Basic skills of programming, ideally some Python knowledge

Type of tutorial: Mix of lectures and hands-on tutorials

Special Requirements:

Attendees should bring their laptop with an SSH- & VNC client
Attendees will get for hands on-labs also access to the CHPC cluster

Outline of full syllabus:

08:00 Registration

09:00 Introduction

- Introduction round & Agenda
- Introduction Intel Software Developer Tools
- Introduction to Machine Learning / Deep Learning

10:30 Morning Refreshment Break

11:00

Classic Machine Learning Tools

- Intel performance Libraries - MKL & DAAL
- Intel Distribution for Python (IDP) Introduction
- IDP Hands on labs

o NumPy & MKL

o K-Means Clustering & DAAL

o SVM & DAAL

12:30 Lunch

13:30

Deep Learning (DL) Tools

- Intel performance Libraries for DL - MKL-DNN & MLSL
- Intel optimized Frameworks / TensorFlow
- o TensorFlow Image Classification Hands-on Lab

o Introduction simple CNN

o Monitored Training Session

15:00 Afternoon Refreshment Break

15:30

Deep Learning Tools (cont'd)

- Intel optimized Frameworks / TensorFlow (cnt'd)
 - o Horovod – distributed classification
 - o Importing external Images
 - o Custom batches
 - Benchmarking distributed TensorFlow (BKM's)
 - Deep Learning Scaling – large scale results (BigDL/Spark)
 - Wrap-Up & Q&A
- 17:00 End of Day

Presenter Biography

Primary authors: STEYER, Michael; PREISS, Edmund (Intel)

Presenters: STEYER, Michael; PREISS, Edmund (Intel)

Session Classification: Optimized Artificial Intelligence Solutions by Intel