

# **IML Machine Learning Working Group: open topic**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## News and group updates

*Friday 26 January 2018 15:00 (10 minutes)*

**Presenters:** MONETA, Lorenzo (CERN); STOYE, Markus (CERN); FLORIS, Michele (CERN); SEYFERT, Paul (CERN); SCHRAMM, Steven Randolph (Universite de Geneve (CH))

**Session Classification:** Regular IML meeting

Contribution ID: 2

Type: **not specified**

## **ROC's, AUC's and alternatives in HEP and other domains**

*Friday 26 January 2018 15:10 (30 minutes)*

**Presenter:** VALASSI, Andrea (CERN)

**Session Classification:** Regular IML meeting

Contribution ID: 3

Type: **not specified**

## Riemann-Theta Boltzmann Machine

*Friday 26 January 2018 15:40 (20 minutes)*

<https://arxiv.org/abs/1712.07581>

**Presenters:** KREFL, Daniel (CERN); KREFL, Daniel (Unknown); CARRAZZA, Stefano (CERN)

**Session Classification:** Regular IML meeting

Contribution ID: 4

Type: **not specified**

## Conference report: NIPS

*Friday 26 January 2018 16:00 (20 minutes)*

**Presenter:** THAIS, Savannah Jennifer (Yale University (US))

**Session Classification:** Regular IML meeting

Contribution ID: 6

Type: **not specified**

## **EP-IT data science seminar: Soumith Chintala (Facebook): Automatic Differentiation and Deep Learning PLEASE JOIN THIS SESSION THROUGH WEBCAST FROM THE SEMINAR PAGE**

*Friday 26 January 2018 14:00 (1 hour)*

<https://indico.cern.ch/event/689421/>

Statistical learning has been getting more and more interest from the particle-physics community in recent times, with neural networks and gradient-based optimization being a focus.

In this talk we shall discuss three things:

- automatic differentiation tools: tools to quickly build DAGs of computation that are fully differentiable. We shall focus on one such tool “PyTorch”.
- Easy deployment of trained neural networks into large systems with many constraints: for example, deploying a model at the reconstruction phase where the neural network has to be integrated into CERN’s bulk data-processing C++-only environment
- Some recent models in deep learning for segmentation and generation that might be useful for particle physics problems.

Please note that a Webcast retransmission will be available for this Seminar.

**Session Classification:** Seminar

Contribution ID: 7

Type: **not specified**

## Spes Spirae

*Friday 26 January 2018 16:20 (20 minutes)*

**Presenter:** JOERGENSEN, Lars Varming (CERN)

**Session Classification:** Regular IML meeting

Contribution ID: 8

Type: **not specified**

## Minutes

*Friday 26 January 2018 16:40 (1 minute)*

**Session Classification:** Regular IML meeting