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IML



IML News

Sergei Gleyzer

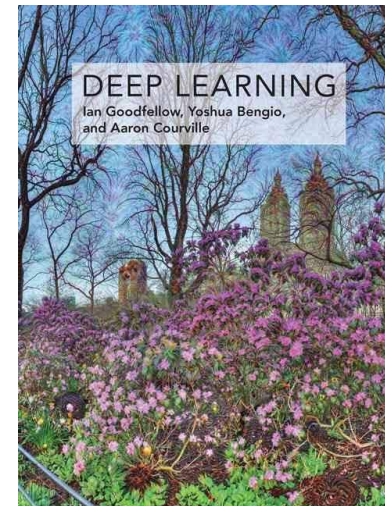
Steven Schramm, Lorenzo Moneta

Paul Seyfert, Michele Floris

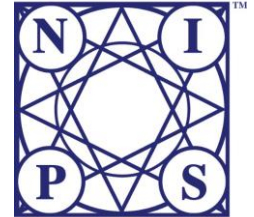
IML WG Meeting

Nov. 3, 2017

- **Ian Goodfellow (Google Brain)**
 - Well-known data scientist and author
 - Inventor of GANs
 - Indico Oct. 27
 - **Recording** available



- **Deep Learning for Physical Sciences Workshop (DLPS):**



- December 8, 2017
- Long beach, CA, USA
- <https://dl4physicalsciences.github.io/>
- Call for papers to be selected as talks (6)
- **Deadline Nov. 3 (today)**

- **CHEP 2018 opens abstract submission
November 15**

– Sofia, Bulgaria July 9-13, 2018



- **Dark Matter with Machine Learning Workshop**

– Oort-Leiden, Netherlands

– Jan. 15-19, 2018



- **Connecting the Dots 2018**
 - University of Washington, Seattle
 - March 20-22, 2018

- **ML for Jet Physics Workshop**
 - LBNL, Dec 11-13, 2017
 - **Abstract submission deadline today**

- Last year a very successful IML workshop (~300 participants)
 - <https://indico.cern.ch/event/595059/>
- Will again organize for next year
- **Save the date: April 9-13, 2018**

Other news

- **INSIGHTS**, Marie-Curie ITN, will soon open hiring calls for 12 Ph.D. students in ML and Statistics for HEP



- **EP/IT Data Science seminar**
 - ML for Jet Physics, B. Nachman, Nov. 15, 2017


Next Meeting


- **Open Topic, December 1, 2017**
 - <https://indico.cern.ch/event/670021/>
- **Current suggestions:**
 - **Benchmark Datasets and Reproducibility**
 - Tools like Open ML etc.
- **Open for other contributions**

Happy Birthday

- In September IML turned 2
- This October 1 year in LPCC
 - <https://lpcc.web.cern.ch/lhc-ml-wg-wg-machine-learning-lhc>
- On January 1, I will step down as IML coordinator to take care full-time of CMS Machine Learning Group
 - New coordinator will join in January


IML Machine Learning Working Group: Generative models

 Friday 3 Nov 2017, 15:00 → 18:00 Europe/Zurich

 503-1-001 - Council Chamber (CERN)

Description Agenda under development. If you like to present, please contact [iml.coordinators@cern.ch](mailto:iml coordinators@cern.ch)

Videoconference Rooms

 IML-MachineLearning-WG

Join




 Cou

15:00 → 15:10 News and group updates

Speakers: Lorenzo Moneta (CERN), Michele Floris (CERN), Paul Seyfert (CERN), Dr. Sergei Gleyzer (University of Florida (US)), Steven Randolph Schramm (Universite de Geneve (CH))

15:10 → 15:45 Introduction to GANs

Speaker: Luke Percival De Oliveira

 gan-intro-impl.pdf

15:45 → 16:15 Frontiers with GANs ¶

Speaker: Michela Paganini (Yale University (US))

 advanced_gans impl...

16:15 → 16:40 Quantized Stochastic Gradient Descent

Parallel implementations of stochastic gradient descent (SGD) have received significant research attention recently, thanks to the good scalability of the algorithm. A fundamental barrier for parallelizing large-scale SGD is the fact that the cost of communicating the gradient updates between nodes can be large. Consequently, several compression heuristics have been proposed, by which nodes only communicate quantized, approximate versions of the gradients. Although effective in practice, these heuristics do not always converge, and it is not clear whether they can be improved. In this talk, I will describe (QSGD), a family of lossy