IML News

April 28, 2017
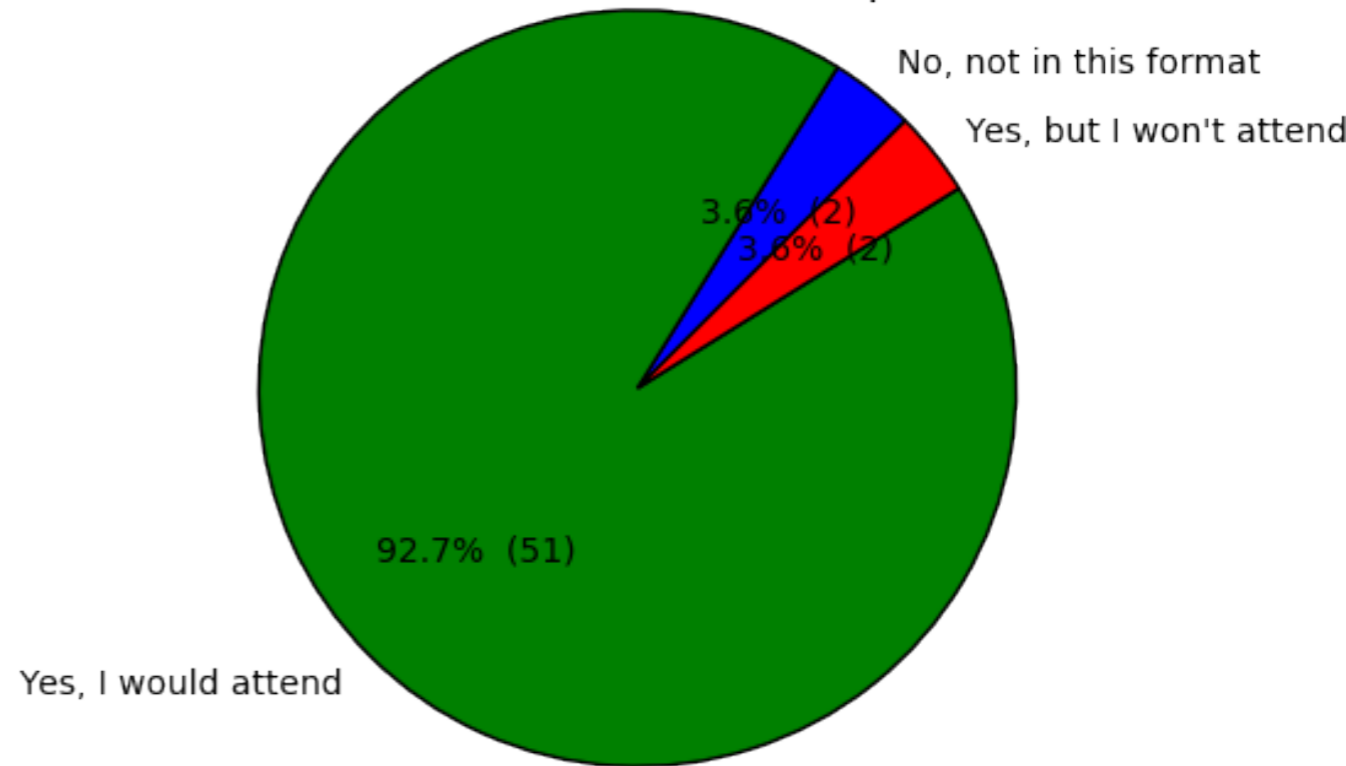
Michele Floris (ALICE)
Steven Schramm (ATLAS)
Sergei V. Gleyzer (CMS)
Paul Seyfert (LHCb)
Lorenzo Moneta (SFT)

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- Workshop recordings available here

- Events & Training

  - DS@HEP Workshop, Fermilab, May 8–12
    https://indico.fnal.gov/conferenceDisplay.py?confId=13497

  - ML in HEP Summer School, Reading June 17–23 2017
    https://indico.cern.ch/event/613571/

  - Fermilab ML Group Meeting
    https://indico.fnal.gov/conferenceDisplay.py?confId=14236

  - Apache Spark for Developers (new training on CERN Training Catalogue)
    https://cern.ch/course/?173SPK02

- Next Meeting:

  - May 24, 4-3-006 TBC, https://indico.cern.ch/event/631610/

  - Topic: Challenge results, Deep Learning

- q/g Challenge: Challenge closed, but dataset still available
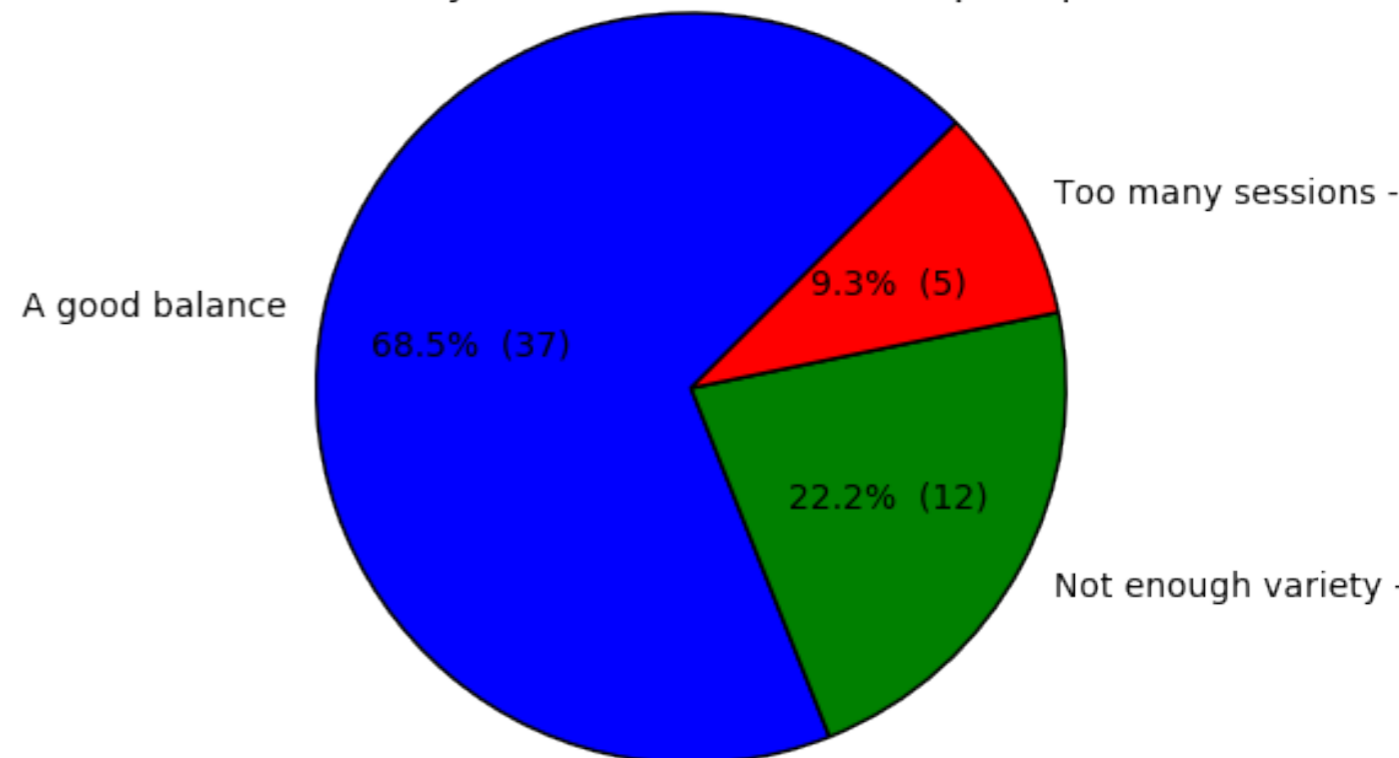
  - https://gitlab.cern.ch/IML-WG/IMLWorkshop2017-Challenge

- **55 answers**

- People like the idea of 1 maybe 2 workshop

- Most people **would attend again**

- **Format**, length, location, period of the year was appreciated by most (> 85%)

- **Balance** of topics was ok

- Recurrent requests:

  - More **context for beginners**

  - **Variety** of topics: should have made more explicit that the contributed part was meant to be **topical**!

  - **Lecture-like** contributions from experts (data-scientists)

Should we have another workshop like this?

No, not in this format

Yes, but I won't attend

3.6% (2)
3.6% (2)

92.7% (51)

Yes, I would attend

What did you think of the workshop scope?

Too many sessions

A good balance
68.5% (37)

9.3% (5)

22.2% (12)
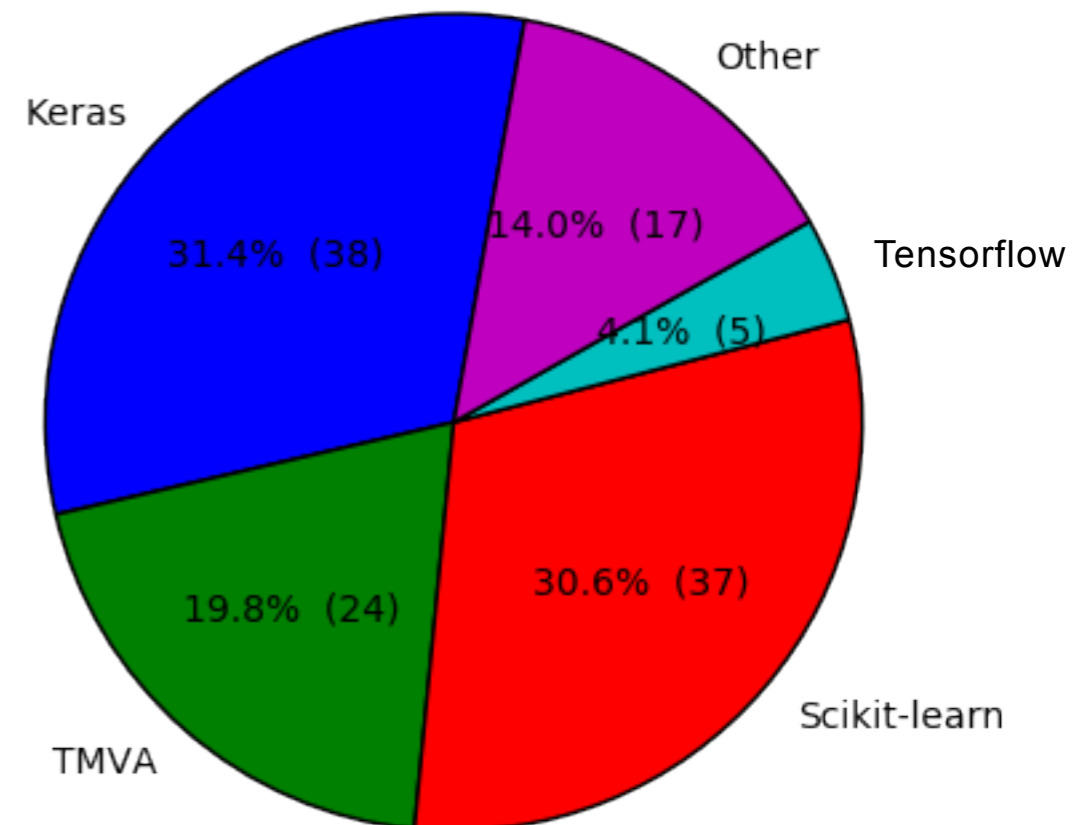
Not enough variety

Industry

- 85% attended

- Suggestions for **additional invitations**: Google, AMD, Facebook, startups, **non-HEP but non-industry** (e.g. math, computer science)

- Suggestion to invite people with **HEP background** (facilitates communication) or former physicist (career opportunities)

- 83% appreciated **panel**

  - Preference for even split of pre-planned and audience questions

Community White Paper

- 50% attendance

- 50% of attendees got a new perspective

- Most attendees found it **useful** in view of preparation of the final paper

  - But some suggestions for a **more "structured" discussion**

  - Not easy to follow discussions (esp. on Vydio)

- 50% would have appreciated **longer tutorials**

- Majority found them well targeted, ~ 45% **too simple / too advanced**

  - Difficult to **accomodate all levels**

  - Maybe explicitly label tutorials as **basic/advanced** next time

- Only ~30% had (misc) **technical problems** with tutorial

- Lots of **interests in the tutorials**

  - Variety of requests

  - Not just on "**tools**" but also
    on "**concepts**" and "**techniques**"

- **Bottom line:**

  - In general **appreciated**

  - Requests for **longer tutorials**

  - Request for tutorials at **different levels**

Which tutorials should be covered in the future?

Keras — 31.4% (38)
Other — 14.0% (17)
Tensorflow — 4.1% (5)
Scikit-learn — 30.6% (37)
TMVA — 19.8% (24)

- **85 % attended, 85% of them appreciated the format**
  (length of talks and topics)

- Request for **more variety** (but was meant to be topical)

- "Same contribution from different experiments"

  - Maybe next time include "overview talks"

- **Suggestions for future workshops:**

  - A link with the Aerospace and Astrophysics

  - Tracking

  - Deep learning for analysis

  - Generation / simulation

  - non-HEP

  - Brainstorming-like meeting

- About **30% participated**, all of them would participate in a future challenge

- Most of the participants found it useful and well tuned in terms of difficulty

- Half of the participants plan to **reuse the dataset**

- **Assorted feedback**

    - First and second dataset too similar

    - Getting the data a bit cumbersome for non-cern people

    - Open the challenge **longer** (e.g. when announcing the workshop)

    - Too many prerequisites

    - Misc technical problems (<20%)

- Definitely **margin for improvement**, but it seems
  the **experiment was appreciated**

- Overall, **workshop seems to have been appreciated**

- We will continue to aim at **~monthly meetings with ~1 workshop/year** as generally preferred

- **Thank you** to everyone who participated and made it a great experience

- Special thanks to those who provided **feedback** on how we can improve in the future

- **Email us** if you have additional comments or suggestions for next workshop!

Thank you

Today's meeting

15:00 → 15:10 **News and group updates** 🕐 10m

Speakers: Lorenzo Moneta (CERN) , Michele Floris (CERN) , Paul Seyfert (Universita & INFN, Milano-Bicocca (IT)) , Dr. Sergei Gleyzer (University of Florida (US)) , Steven Randolph Schramm (Universite de Geneve (CH))

15:10 → 15:30 **IML workshop challenge runner-up presentation** 🕐 20m

Speaker: Michael Andrews (Carnegie-Mellon University (US))

15:30 → 16:00 **Deep learning - IBM presentation** ¶ 🕐 30m

Speaker: Eric Aquaronne (IBM France)

16:00 → 16:20 **Generative Adversarial Networks for LarTPC** 🕐 20m

Speakers: Daniel Lewis Smith (Boston University Study Abroad Geneva Programs (CH)) , TBC

16:20 → 16:40 **Language agnostic ML workflows** 🕐 20m

Speaker: Dr. Andrew Lowe (Hungarian Academy of Sciences (HU))

16:40 → 17:00 **HEP-ML Transfer: Using ML to screen for childhood psychological ailments at Cognoa** 🕐 20m

Speaker: Ford Garberson (Yale University (US))