

Yandex



Highlights and Closing remarks

2018-08-12, Oxford

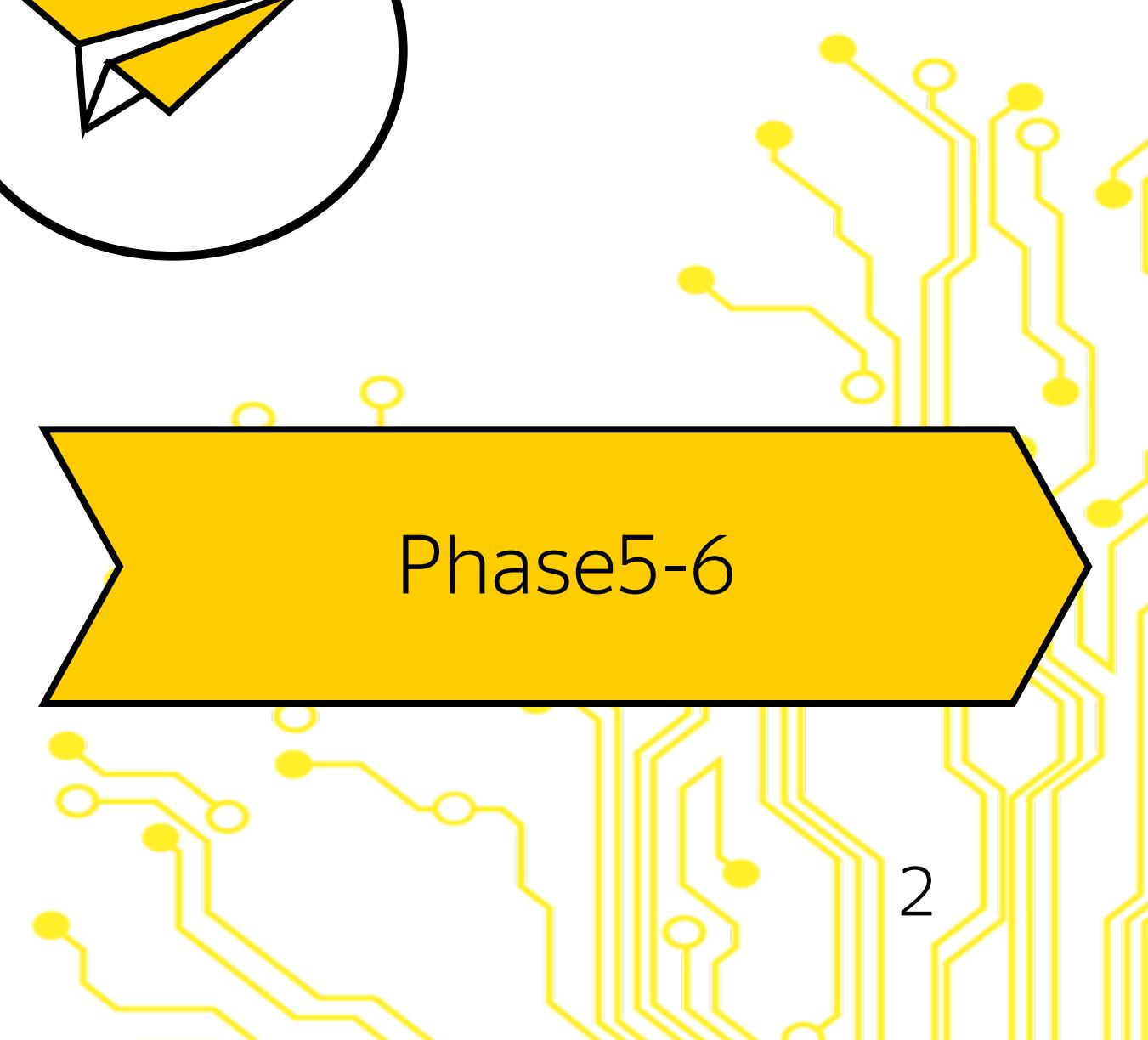
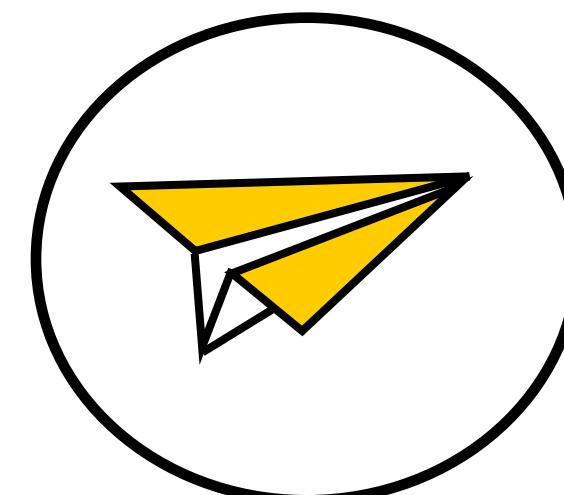
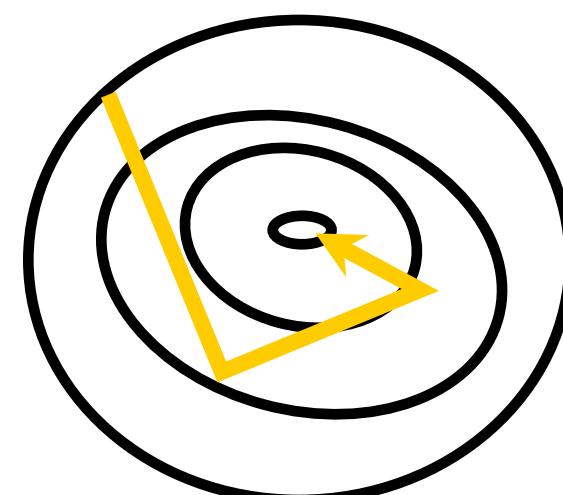
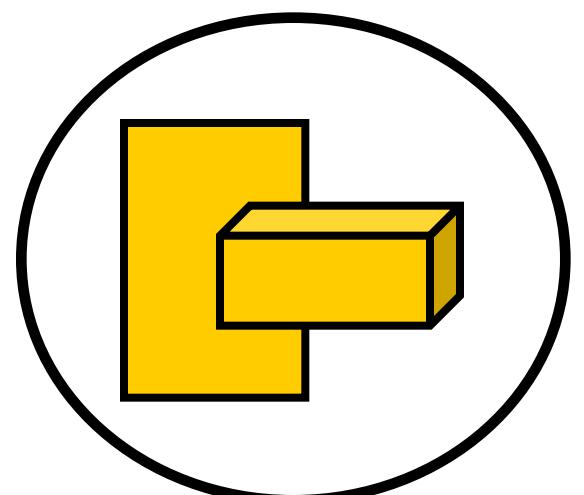
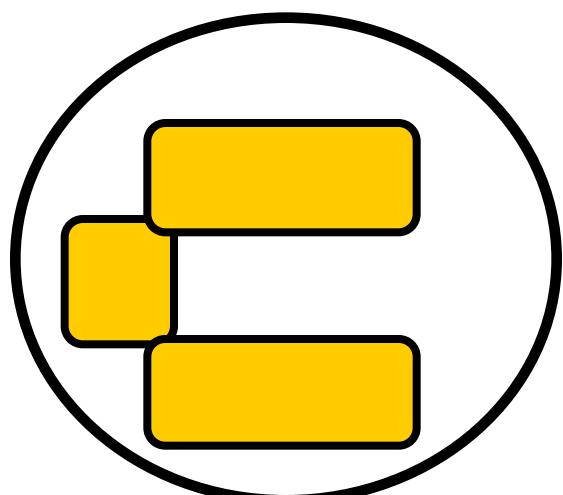
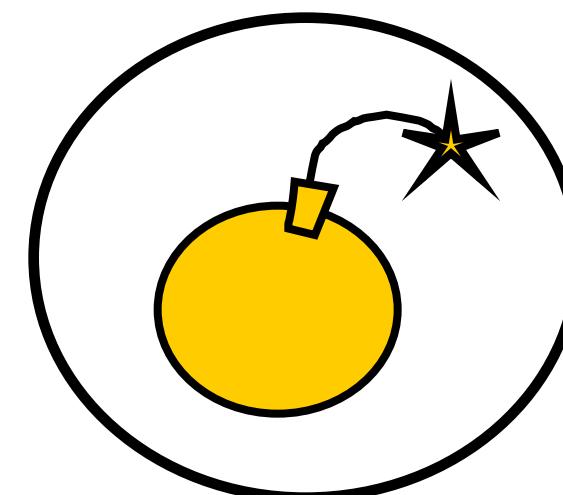
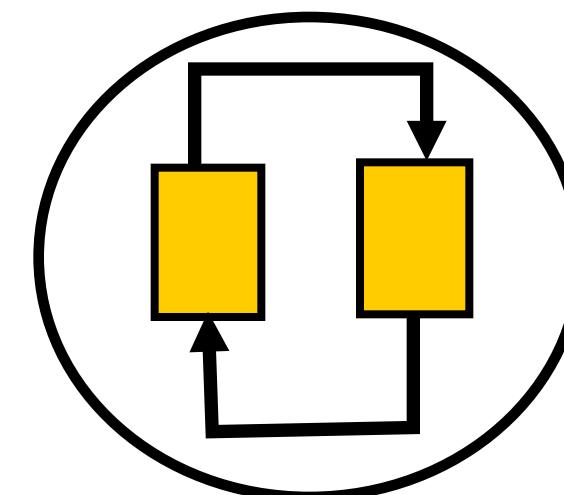
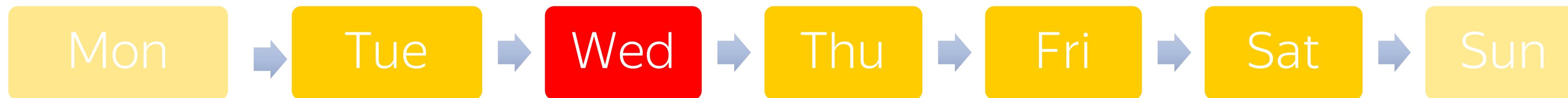
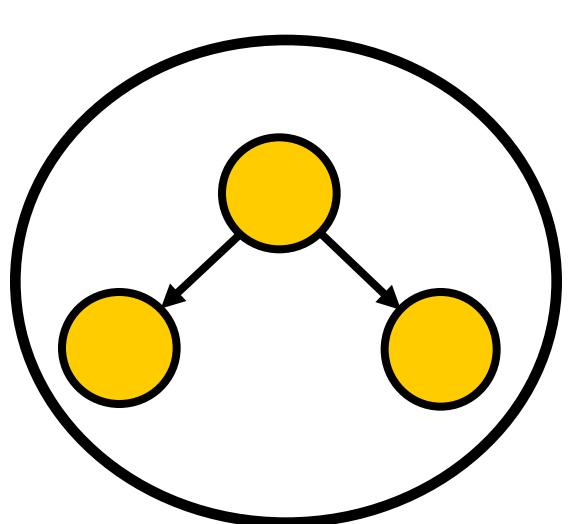
Andrey Ustyuzhanin

NRU HSE

YSDA

ICL

MLHEP 2018 timeline



Phase1-2

Phase3-4

Phase5-6

Core agenda

Linear Models, Decision Trees, Ensembles

Convolution Neural Networks, Tensorflow, Keras

Generative models

Optimization techniques

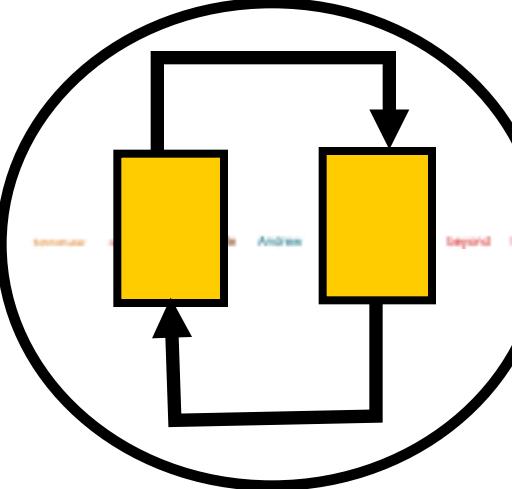
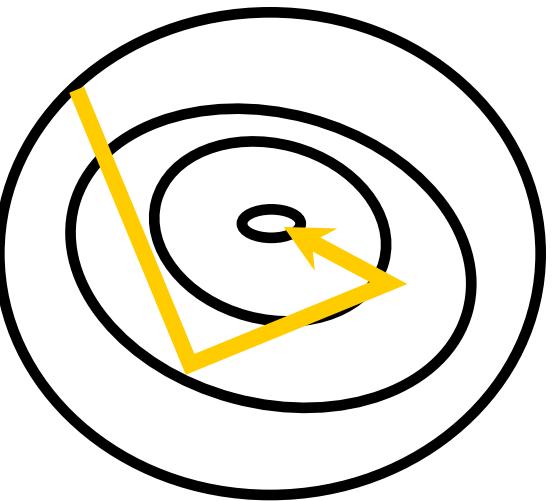
Extra topics

- › Neural Nets interpretation
- › RNN, RecNN,
- › Dimensionality reduction, embedding

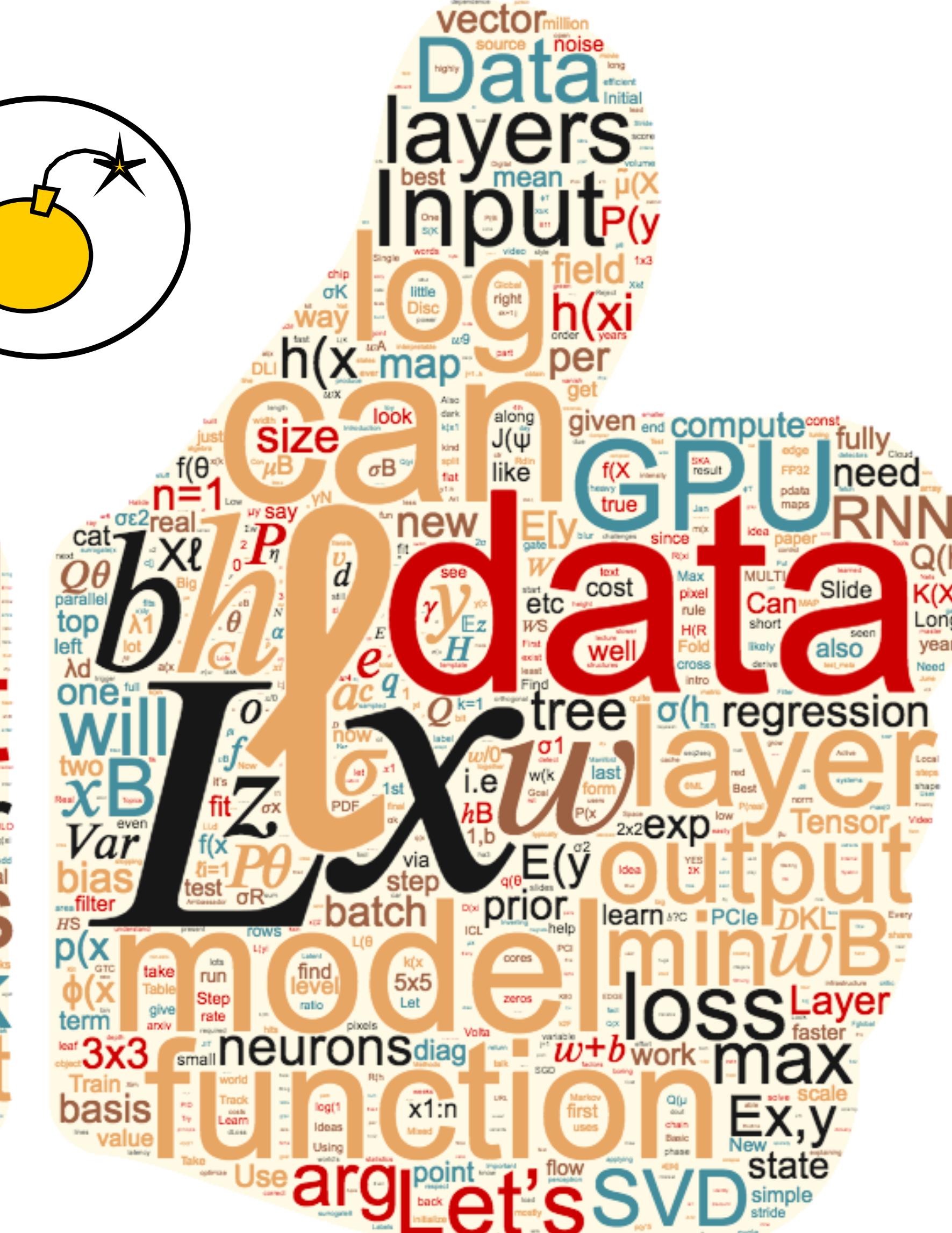
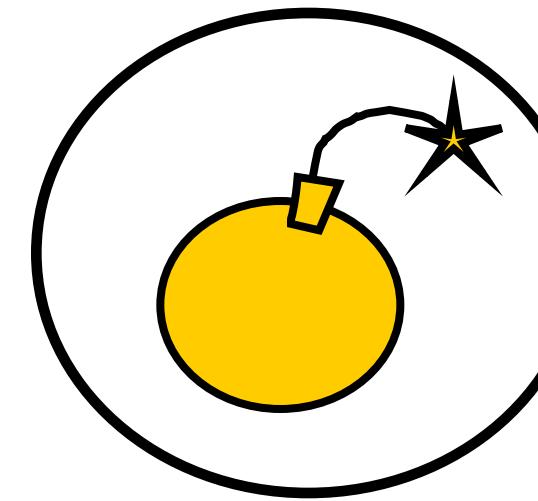
Invited talks

- Accelerating searches for new physics (and Dark Matter) with Machine Learning, Sascha Caron
- Fuelling the Artificial Intelligence Revolution with Gaming, Alison Lowndes
- What makes Tensorflow fast? Peter Braam
- Applied machine learning in marketing tech: Data driven advertising at the petabyte scale, Alex Sadovsky
- Deep Learning in High Energy Physics, Michael Kagan
- Few-shot Generative Modelling, Sergey Bartunov

Key Topcs

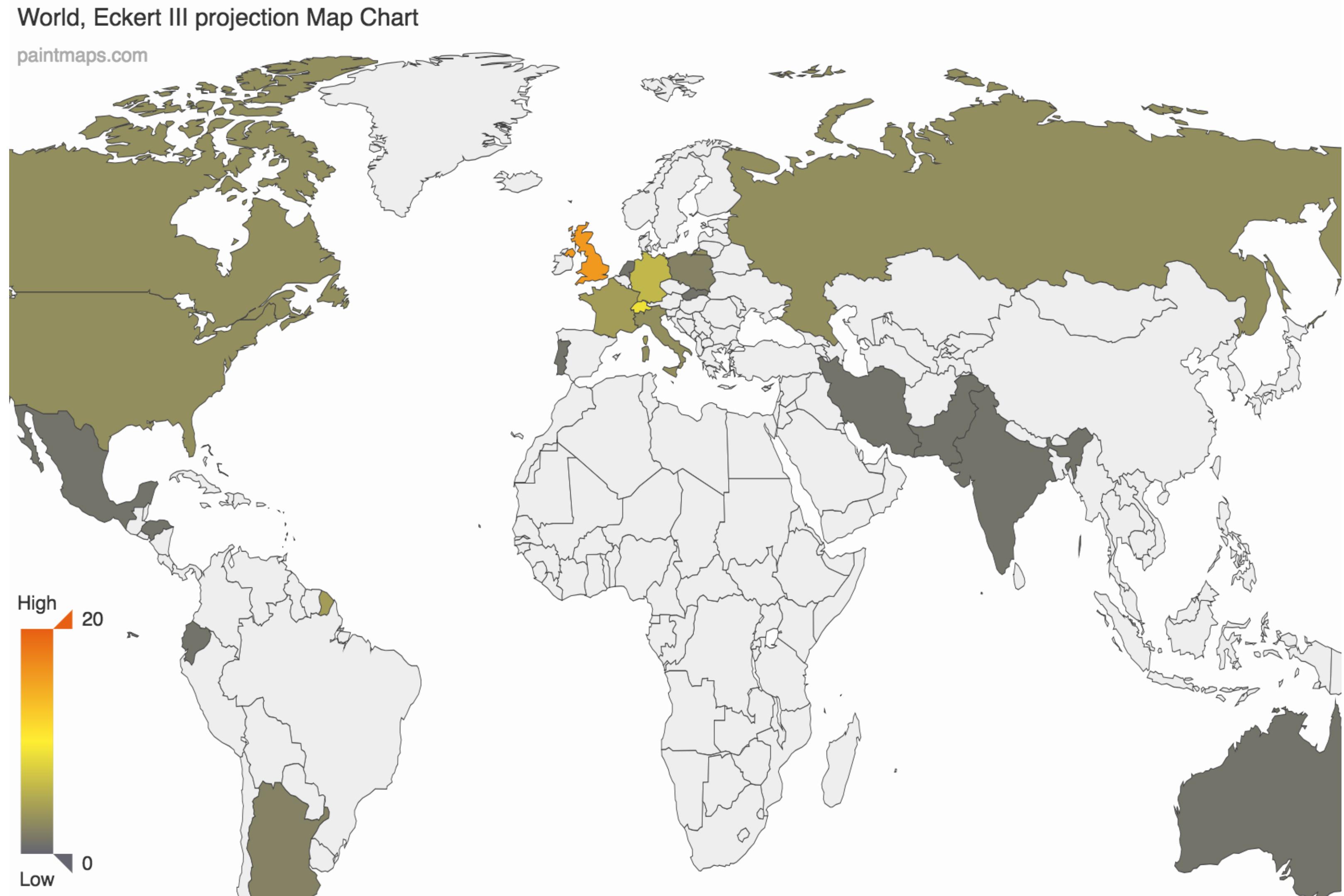


set time
e.g. if
use
input
variance
linear
models
network
gradient
conv signal error



MLHEP 2018 world map

60+ students
20 countries
5 continents



Semantic segmentation for LArTPC

Phase 1-2

RESULTS							
#	User	Entries	Date of Last Entry	Team Name	Accuracy (80% percentile) ▲	Accuracy (median) ▲	Accuracy (mean) ▲
1	JTan	2	08/10/18		0.9736 (1)	0.9106 (1)	0.8919 (1)
2	alheld	3	08/09/18		0.9622 (2)	0.8809 (3)	0.8439 (3)
3	wellatiger	2	08/10/18		0.9598 (3)	0.8847 (2)	0.8454 (2)

Phase 3-4

RESULTS							
#	User	Entries	Date of Last Entry	Team Name	Accuracy (80% percentile) ▲	Accuracy (median) ▲	Accuracy (mean) ▲
1	alheld	9	08/11/18		0.9365 (1)	0.8946 (1)	0.8821 (1)
2	smehta	10	08/11/18		0.9192 (2)	0.8773 (2)	0.8666 (2)
3	axcel	8	08/11/18		0.9185 (3)	0.8511 (4)	0.8188 (6)

Future

| Data Science competitions:

- | > October
- | Your problem?

| MLHEP 2019:

- | > Venue?
- | > <https://goo.gl/forms/sD0LCb8I6zj9mHXv1>

Useful references

<https://bit.ly/mlhep2018>

mlhep2018@yandex.ru - mailing list

<https://github.com/yandexdataschool/mlhep2018>

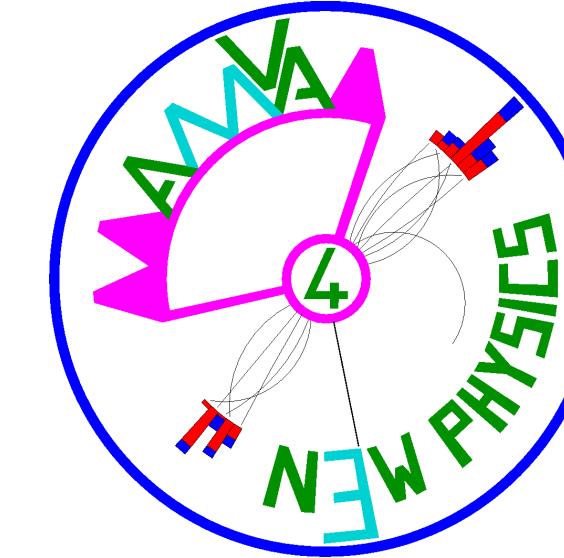
<https://cs.hse.ru/lambda/>

- › PhD studies on topics of Machine Learning and Natural Sciences
- › Internships
- › Joint PhD programs

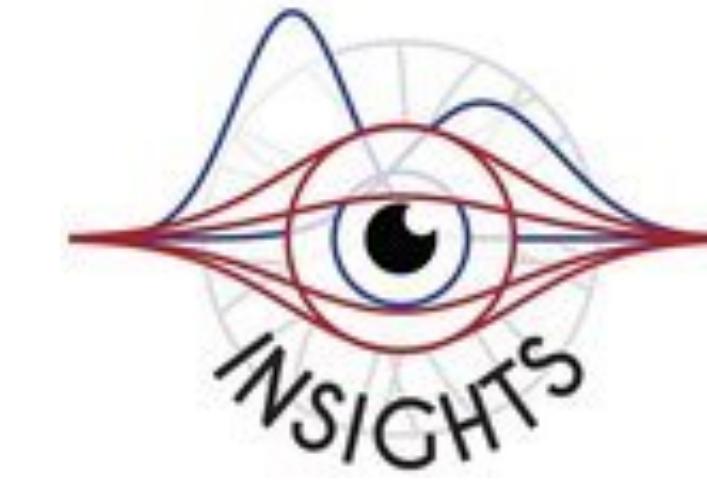
Chat

- › <https://t.me/joinchat/DMMgwguq9bJN58CVxDxX5Q>

Thanks to our sponsors



<https://amva4newphysics.wordpress.com>



<https://www.insights-itn.eu>

Many thanks to Oxford Team



UNIVERSITY OF
OXFORD

Sue Geddes



Miha Zgubic



Daniela Bortoletta

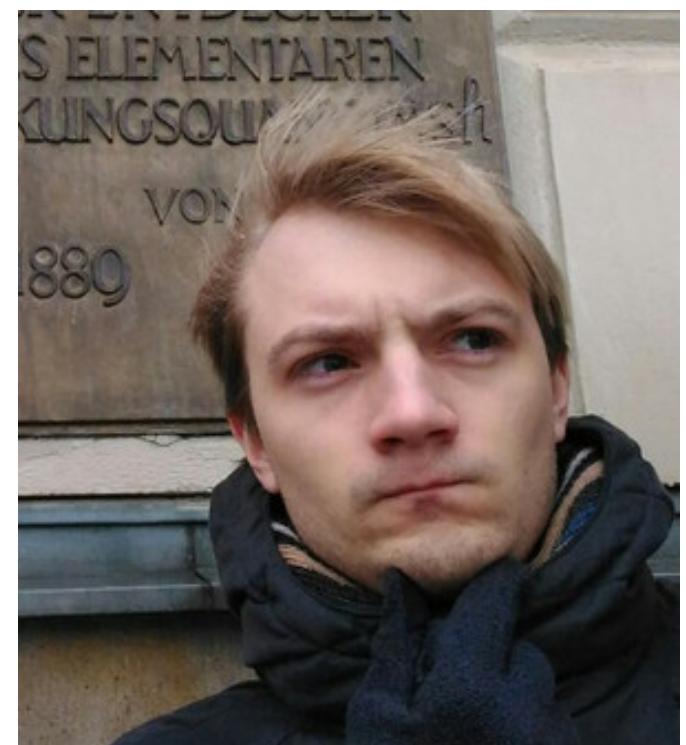


Ian Shipsey

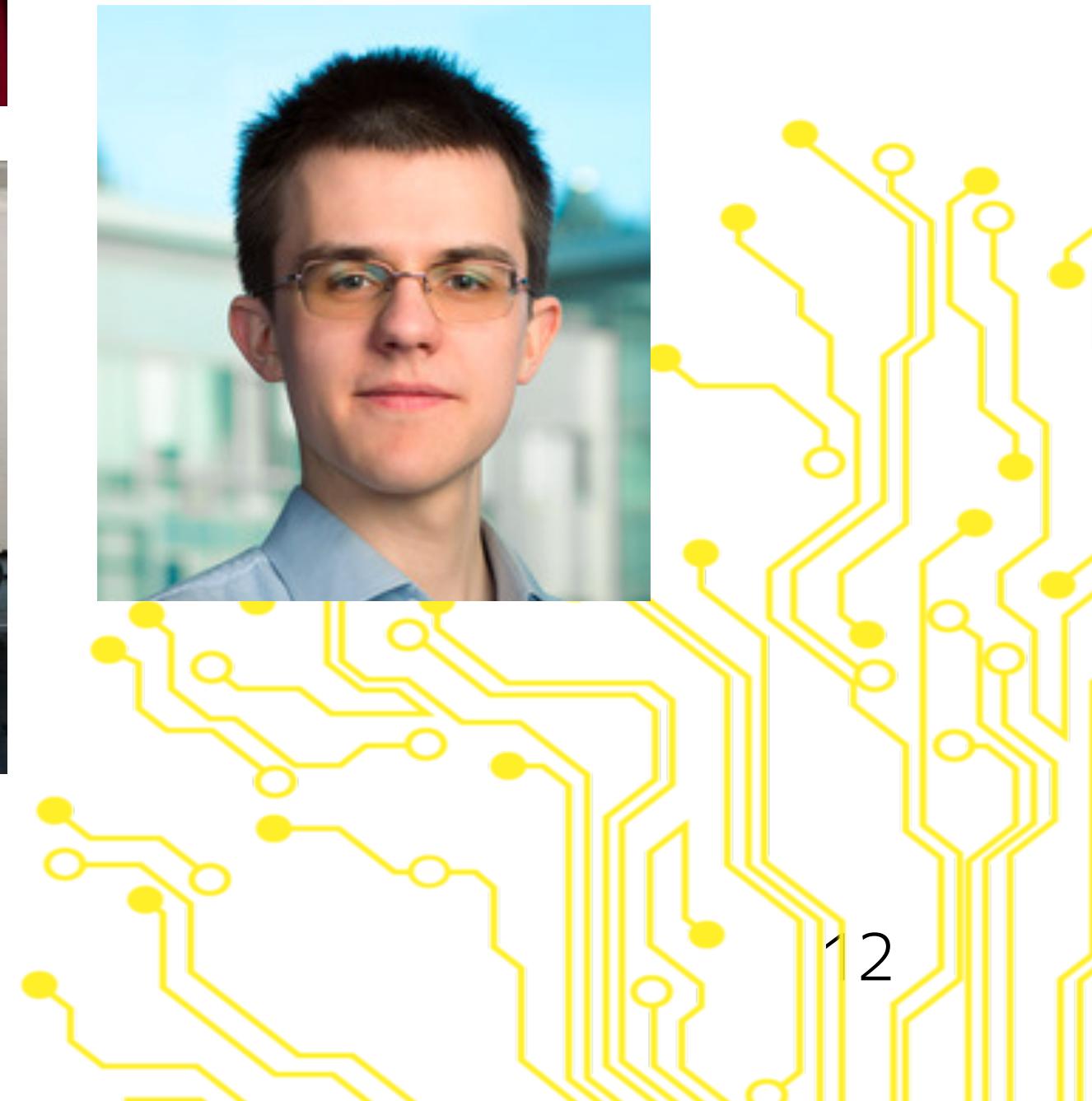
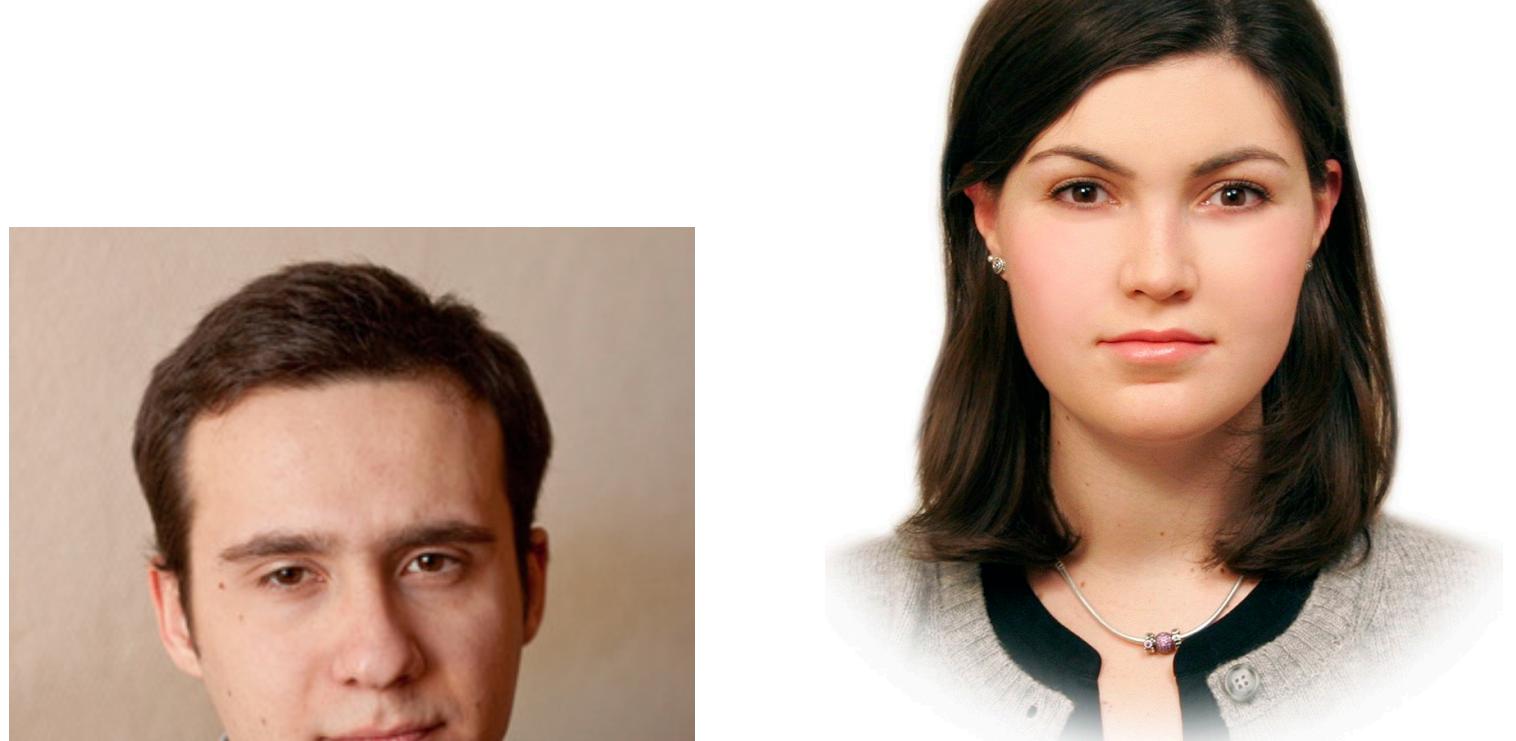


Huge thanks to the core team

Dr. Alexey Artemov, Skoltech, HSE
Dr. Ekaterina Chernyak, HSE
Maxim Borisyak, YSDA
Nikita Kazeev, YSDA, HSE



Andrey Ustyuzhanin



Let's keep it going!

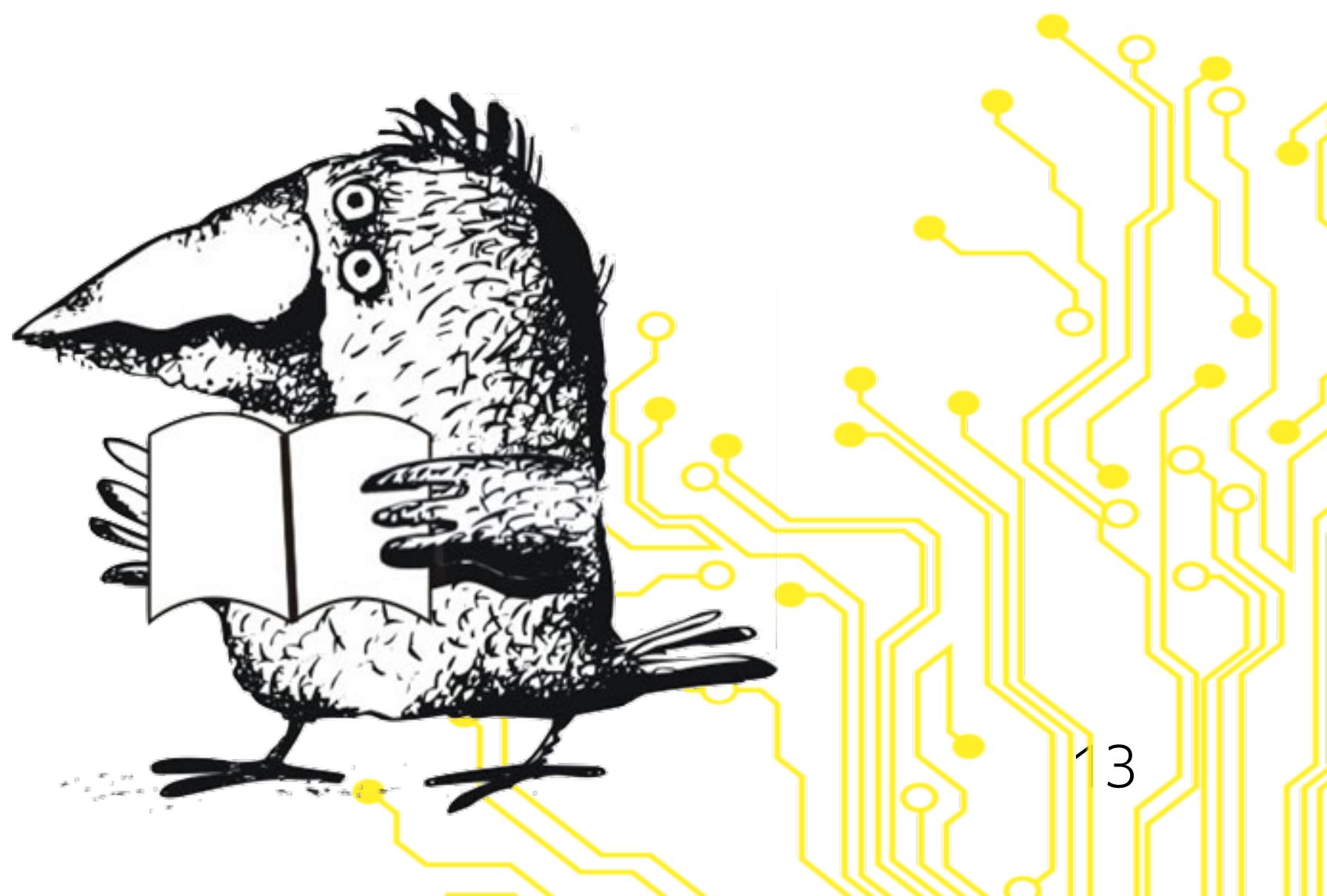
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<https://goo.gl/forms/sD0LCb8I6zj9mHXv1>

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