

Session Program

27-30 Aug 2015

MLHEP 2015 summer school

Advanced track

Academic University
Khlopin st, 8, Saint Petersburg, Russia

Thursday 27 August

09:40

Advanced track: lectures

Session | **Location:** Academic University, 206 | **Convener:** Dr Victor Kitov

09:40–11:00

Reminder about major algorithms. Advanced aspects of their use. Model evaluation.

11:00–11:20

coffee break

11:20–12:40

Feature selection. Regularization.

12:40

13:45

Advanced track: seminars

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Tatiana Likhomanenko

13:45–15:15

MLHEP introduction. ML vs MLHEP: correlation and agreement restrictions

Speaker

Tatiana Likhomanenko

15:15–15:40

coffee break

15:40–17:10

sPlot technique. ML on sPlot data.

17:10

Friday 28 August

09:30

Advanced track: lectures #2

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Dr Victor Kitov

09:30–10:50 **model ensembling #1**

10:50–11:10 **coffee break**

11:10–12:30 **model ensembling #2**

12:30

13:45

Advanced track: seminars #2

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Tatiana Likhomanenko

13:45–15:15 **Brave new boosting world: flatness boosting**

15:15–15:40 **coffee break**

15:40–17:10 **Brave new boosting world: reweighing boosting. Iterative learning**

17:10

Saturday 29 August

09:30

Advanced track: lectures #3

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Dr Victor Kitov

09:30–10:50 **Linear dimensionality reduction.**

10:50–11:10 **coffee break**

12:30

11:10–12:30 **Non-linear dimensionality reduction. Kernel trick. Common kernels.**

13:45

Advanced track: seminars #3

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Tatiana Likhomanenko

13:45–15:15 **Meta Algorithms Applications in HEP.**

15:15–15:40 **coffee break**

17:10

15:40–17:10 **Hypotheses testing.**

Sunday 30 August

09:00

Advanced track: lectures #4

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Dr Victor Kitov

09:00–10:20

Kernelized algorithms: SVM, regression, K-NN, PCA and their properties.

10:20–10:40

coffee break

10:40–12:00

Deep learning. Different kinds of learning.

12:00

13:00

Advanced track: seminars #4

Session | **Location:** Academic University, 206, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Tatiana Likhomanenko

13:00–14:30

Summary: HEP ML analysis sketch, from data to discovery.

14:30–14:45

coffee break

14:45–16:15

My own first NN using theano.

16:15