Machine Learning applied to Nuclear Physics, Experiment and Theory

Report of Contributions

Contribution ID: **1** Type: **not specified**

Linear Regression and intro to statistical data analysis

Monday, 19 July 2021 14:00 (2 hours)

Presenter: HJORTH-JENSEN, Morten (Michigan State University (USA))

Contribution ID: **2**   Type: **not specified**

Logistic Regression and classification problems, intro to gradient methods

Tuesday, 20 July 2021 14:00 (2 hours)

Presenter: HJORTH-JENSEN, Morten (Michigan State University (USA))

Contribution ID: **3**   Type: **not specified**

Decision Trees, Random Forests and Boosting methods

Wednesday, 21 July 2021 14:00 (2 hours)

Presenter: HJORTH-JENSEN, Morten (Michigan State University (USA))

Contribution ID: 4 Type: **not specified**

Basics of Neural Networks and writing your own Neural Network code

Thursday, 22 July 2021 14:00 (2 hours)

Presenter: HJORTH-JENSEN, Morten (Michigan State University (USA))

Contribution ID: **5**   Type: **not specified**

Beta-decay experiments, how to analyze various events, with hands-on examples

Friday, 23 July 2021 14:00 (2 hours)

Presenter: Prof. LIDDICK, Sean (Michigan State University)

Contribution ID: **6**   Type: **not specified**

Neural Networks and Deep Learning

Monday, 26 July 2021 14:00 (2 hours)

Presenter: Prof. RAMANUJAN, Raghuram (Davidson College)

Contribution ID: **7**   Type: **not specified**

From Neural Networks to Convolutional Neural Networks and how to analyze experiment (classification of events and real data)

Tuesday, 27 July 2021 14:00 (2 hours)

Presenter: Prof. KUCHERA, Michelle (Davidson College)

Contribution ID: **8**   Type: **not specified**

Discussion of nuclear experiments and how to analyze data, presentation of simulated data from Active-Target Time-Projection Chamber (AT-TPC)

Wednesday, 28 July 2021 14:00 (2 hours)

Presenter: Prof. BAZIN, Daniel (Michigan State University)

Contribution ID: **9**

Type: **not specified**

Generative models

Thursday, 29 July 2021 14:00 (2 hours)

Presenter: Prof. KUCHERA, Michelle (Davidson College)

Contribution ID: **10**   Type: **not specified**

Reinforcement Learning

Friday, 30 July 2021 14:00 (2 hours)

Presenter: Prof. RAMANUJAN, Raghuram (Davidson College)

Contribution ID: **11**   Type: **not specified**

Exercises