

Machine learning in Physics

Assignment 1

February 25, 2021

important notes

The deadline is March 5th.

Submit the jupyter notebook (ipynb file) here

<https://forms.gle/z16FVaHVadQ4Q5NX9>

START TO WORK WITH DATA

Take ground state energy data from course materials and do these steps

data link: https://github.com/sraeisi/MachineLearning_Physics/tree/master/Data

- Try to find a linear model using brute force.
- Train two models of your choice (with sklearn e.g. KNN, SGD).
- Measure the performance.
- Scale the data and redo the model training and compare the performance.
- Apply data reduction and redo the model training and compare the performance for different number of features that you keep. Try this for variance threshold, PCA and TSNE.