Machine Learning for Asset Management

Tutorial 5

— You will be graded for this tutorial
— You can work on this tutoorial individually or by 2 maximum
— Each Hierarchical Risk Parity question yields 3 points (5 questions)
— Each question in the EURUSD part yields 1 point (19 questions)
— 5mn before the end of the tutorial, you must send a single python code to your tutorial teacher
— The file name should be : MLTutorial5_LastName.py or MLTutorial5_LastName1_LastName2.py
— *If you do not send a file, or send it AFTER the tutorial has ended, your grade for this tutorial will be 0*

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1 OLS and regression trees

Starting with linear regression is usually not a bad idea., As mentioned in several lectures, trees are interesting alternative models. In this section, we will compare models using these 2 techniques.
You will lestimate the euro-dollar spot rate using standard indicators such as the MACD and the RSI. So you have to start by computing the indicators, then the models, and finally the backtests. You will see here the benefit of re-evaluating models frequently.

2 Hierarchical risk parity

You will combine the clustering method "Hierarchical Clustering" with the "Risk Parity" allocation method to create a new portfolio construction technique : "Hierarchical Risk Parity".