ToDo:

1. Week 1: 5.01-9.01.2105 - Overview of the models

5.01.2015 : Classical and modern econometric models: linear regressions (Trading volume importance,) ✔

6.01.2015 : Simple linear regression ✔

7.01.2015 : Multiple linear regression ✔

8.01.2015 : Nonlinear regressions (simple and multiple) print [non linear d, e] ✔

9.01.2015 : Neural networks (MLP, DBM, BMs,)✔

10.01.2015 : Machine learning on stock exchange as generalization for different approaches (deep learning algorithm as "THE TREND")✔

2. Week 2: 12.01-22.01.2105 - Data preprocessing and collection

12.01.2015 : Pause ✔

13.01.2015 : Finishing first week, Model choosing, Intro first-iteration finishing (data mining and machine learning. Choosing the model) ✔

19.01.2015 : Data collection & Data-analysis (auto-regression, heteroskedasticity, error and data-distribution, density of the distribution)✔

20.01.2015 : !Samsung Electronics! is only since 2010 traded on European markets (volume is very low, the prices are too high - wrong correlation) How to find or use historical data (Market share 10.5%) Smoothing the input data (moving average, noise reduction techniques)

21.01.2015 : Dependencies matrix (time-dependent correlations and non-time dependent correlations)

22.01.2015 : Cut off (general dependencies on the main index)

3. Week 3: 5.02-8.02.2105 - Model training and fine-tuning

5.02.2015 : Optimum finding

$$R^2 -> max$$

as example of the focus functions

6.02.2015 : Iterative fine-tuning and learning process 1

7.02.2015 : Iterative fine-tuning and learning process 2

8.02.2015 : Error check

4. Week 4: 9.02-15.02.2105 - Second Data processing

9.02.2015 : Texts mining (manual evaluation + automized mood detection, python library Open source)

10.02.2015 : Texts mining (manual evaluation + automized mood detection, python library Open source)

11.02.2015 : Manual analysis direct(later automatization) and automatic sentiment analysis

12.02.2015 : Manual analysis direct(later automatization) and automatic sentiment analysis

13.02.2015 : Forecast as time series

14.02.2015 : Forecast as a time series $->$ Input for 1 stage

15.02.2015 : Fine-tune the regression

5. Week 5: 16.02-22.02.2105 - Results Interpretation and clean up

16.02.2015 : Fine-tuning the regression model

17.02.2015 : Comparison with the original parameters

18.02.2015 : Validation of the model

19.02.2015 : Interpretation of the results

20.02.2015 : Text clean up (in intro: parametric and non-parametric regressions, give a definition of the regressions, give histograms to prove that distribution restrictions are too strict, examples with real statistics from R)

21.02.2015 : Clean up, further automatization.