

Handout 6

Lectures in Week 40

Monday, October 1:

You should work on the exercise from last week and the mandatory project. I will be available for clarification.

Wednesday, October 3:

Cancelled. I am attending a workshop in Frankfurt.

Exercises in Week 40

You should work on the exercise and the mandatory project.

General recipe for missing data problem

For future reference, I provide the general recipe for parameter estimation in missing data problems using the EM algorithm. Here is the recipe:

- (i) Determine the full data log-likelihood. This function should be analytically tractable.
- (ii) Determine the Q -function, i.e. calculate the E-step.
Maximize the Q function, i.e. carry out the M-step.
- (iii) Implement the iterative procedure. Decide on initial parameter values and a stopping criteria. Check that the data log-likelihood increases in every iteration. Running the algorithm multiple times with different initial parameters is also useful because the algorithm only converges to a local maximum.