
Fundamentals of Probabilistic Data Mining

Graded lab and homeworks

<http://chamilo.grenoble-inp.fr/courses/ENSIMAGWMM9AM017/>

1 General rules

This work is to be achieved by groups of four students. The teams have to be created in <https://teide.ensimag.fr/> (you will receive an automatic invitation to create groups). Depending on the number of students, the last registered teams may contain three students and then be created manually by the teacher.

The whole work is divided into three topics: Mixture models, Hidden Markov Models and Variational Inference. Each topic involves:

- lab work, which may be achieved in a supervised 1h30 session
- mandatory unsupervised lab work
- optional research-like work, which must be addressed to obtain grades above 18/20, will not be considered if some mandatory questions have not been addressed.

A .zip archive has to be uploaded on <https://teide.ensimag.fr/>, which should contain a report, potential source code (make sure that it is re-runnable).

The report must contain your results, figures (do not forget legends!), comments, conclusions and references. Every protocol for analysis, simulation and estimation has to be fully described. The description of estimation procedures should include, but not be limited to, the name of the estimation algorithm, the stopping criterion, the number of iterations and the choice of the initial parameter value. Every result has to be included in the report with some comments and analysis.