T.61.5140 Machine Learning: Advanced Probabilistic Methods
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http://www.cis.hut.fi/Opinnot/T-61.5140/

The term project is about applying a ready made software zone to a series of problems and reporting the results. The zone package implements the EM algorithm for finite mixtures of multivariate Bernoulli distributions for modeling 0-1 data and some other useful programs that can be used for computational routine tasks in mixture modeling.

Download the software from the course Web page by adding the filename `zone.tar.gz` to the course Web page above. Uncompress the package and print the manual (either `zone_manual.dvi, zone_manual.ps, or zone_manual.pdf`), and read it thoroughly. Take your time. You need to be quite comfortable in running the programs, and knowing what they do, before you can get started.

In order to run the programs, you need to compile them. Instructions for compiling the programs can be found in the manual, although some familiarity with the compilation procedure is assumed.

Once you are ready to move on: solve all the numbered exercises in the manual. This is the term project. Of course you may choose to visualize the models and their parameters in Matlab, for instance, this is up to you. You need to report the results, with possibly included figures of results, in a typed report format. The grading will be based on the correctness of the results and the amount of effort put to the project. Since the programs are all made for you, you should concentrate on the modeling and making intelligent observations and findings!! Simply typing in the needed commands is an understatement (barely passed). Use your time in thinking what the results mean and why you had the findings.

In the end: please make note of any discrepancies, errors, omissions, mistakes, stylistic issues, or anything else to the author (Jaakko Hollmén, e-mail: `Jaakko.Hollmen tkk.fi`). After revisions, the package will be released as an open-source tool to the machine learning community. Making the above mentioned notes also increases your course activity, this will be taken into account when grading the course.