

Practice Problems on Probabilistic Models

April 6, 2015

Note: Please do not copy answers from your friends. Please do not submit your solutions to us, as we do not plan to evaluate them. Please feel free to discuss solutions with course instructor.

1. Following exercises (related to MLE) in the book “Machine Learning: A probabilistic perspective” by Kevin Murphy : 3.1, 3.6, 3.8, 3.11a, 3.11b, 3.19, 3.22, 4.1-4.7 (this is a revision of Gaussian distribution), 4.18, 4.19, 4.21, 4.22, 4.23, 9.2.
2. Following exercises (related to Bayesian methods) from the same book : 3.3, 3.7, 3.9, 3.11c-g, 3.12, 3.13, 4.14.
3. Following exercises (related to Linear Regression) from the same book : 7.5, 7.8a-c, 7.9, 7.10 (NIG definition is given in equation (4.200)).
4. Following exercises (related to EM) from the same book : 11.3, 11.2, 11.9, 11.4 (read section 11.4.5 for this).