PROGRAM AND TIMETABLE

T-61.182 Special Course in Computer and Information Science II, Spring 2004

Information Theory and Machine Learning

February 5, 2004

Date	Chapter(s) of the book	Presenter
22.1	Initial arrangements, first meeting	J. Karhunen
29.1	1. Introduction to Information Theory	J.-H. Schleimer
5.2	2. Probability, Entropy, and Inference	J. Raitio
12.2	3. More about Inference	J. Ahola
19.2	4. The Source Coding Theorem	T. Raiko
26.2	5. Symbol Codes, and 6. Stream Codes (central results)	T. Raiko
4.3	8. Correlated Random Variables, and 9. Communication over a Noisy Channel	T. Hirvonen
11.3	20. Clustering, 21. Exact Inference, and 22. Maximum Likelihood and Clustering	A. Vyskubov
18.3	24. Exact Marginalization, 27. Laplace's Method, and 28. Model Comparison and Occam's Razor	A. Klami
25.3	29. Monte Carlo Methods	T. Ukkonen
1.4	30. Efficient Monte Carlo Methods, and 32. Exact Monte Carlo Methods	M. Harva
15.4	31. Ising Models, and 33. Variational methods	J. Peltonen
22.4	38. Neural Networks, 40. Capacity of a Single Neuron, and 41. Learning as Inference	Z. Yang
29.4	44. Supervised Learning in Multilayer Networks, and 45. Gaussian Processes	J. Salojärvi

There is no seminar on 8th April due to the Easter holiday.
The seminar is based on the book D. MacKay, *Information Theory, Inference, and Learning Algorithms,* Cambridge Univ. Press, 2003.