

1051-784: Pattern Recognition
 Course Syllabus
 Spring 2009 (20083)

Week	Date	Topic	Reading Assignment
1	10 Mar	Introduction, examples, applications, basic probability	-
	12 Mar	Bayes decision theory	1, 2.1-2.2
2	17 Mar	Discriminant functions, Normal distribution	2.3-2.4
	19 Mar	Parameter estimation	2.5.1-2.5.3
3	24 Mar	Quiz 1; Nonparametric and nearest neighbor classifiers	2.5.6, 2.5.7, 2.6
	26 Mar	Linear classifiers and Perceptron algorithm	3.1-3.3
4	31 Mar	Least squares methods	3.4-3.5
	2 Apr	Support Vector Machines	3.7
5	7 Apr	Multilayer perceptrons	4.1-4.4
	9 Apr	Backpropagation, generalized linear classifiers	4.6, 4.9, 4.10, 4.12
6	14 Apr	Midterm Exam	-
	16 Apr	Decision trees; classifier methods	4.20-4.24
7	21 Apr	Feature selection; separability measures	5.1-5.6, 5.8
	23 Apr	Feature transformation	6.1-6.3, 6.5
8	28 Apr	Quiz 2, Feature generation	7.1, 7.2.1-7.2.2, 7.3-7.4
	30 Apr	Template matching; System evaluation	8.1, 8.3, 10.1-10.4
9	5 May	Unsupervised clustering basic concepts	11.1, 11.2.1-11.2.2
	7 May	Clustering algorithms	12.1-12.3, 14.5.1
10	12 May	Selected clustering topics	15.3.5, 15.6, 15.7, 15.10
	14 May	Course review	-
	20 May	Final Project due 5 pm – no exceptions possible	

Text: Pattern Recognition, 4th Edition, Theodoridis and Koutroumbas, Academic Press, 2009.

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