

1051-784: Pattern Recognition
 Course Syllabus
 Winter 2005/6

Week	Date	Topic	Reading Assignment
1	28 Nov	Introduction, examples, applications, basic probability	-
	30 Nov	Linear math & Bayesian decision making	1, 2.1-2.2
2	5 Dec	Classifiers, discriminants, Normal distribution	2.3-2.6
	7 Dec	Error integrals & bounds, ML parameter estimation	3.1-3.2
3	12 Dec	Quiz 1; Bayesian parameter estimation	3.3-3.5
	14 Dec	Sufficient statistics, dimensionality, component analysis	3.6-3.8
4	9 Jan	Non-parametric techniques, Parzen windows	4.1-4.3
	11 Jan	Nearest neighbor estimation and rules	4.4-4.6
5	16 Jan	Linear discriminant functions	5.1-5.5
	18 Jan	Mid-term Exam	
6	23 Jan	Minimum squared error, SVM, multcategory	5.8, 5.11, 5.12
	25 Jan	Multilayer neural networks, feed forward, backpropagation	6.1-6.3
7	30 Jan	MNN error surface, features, Bayes theory, techniques	6.4-6.6, 6.8
	1 Feb	Stochastic search, Boltzman learning	7.1-7.3
8	6 Feb	Quiz 2, Evolutionary methods, genetic programming	7.5-7.6
	8 Feb	Nonmetric methods	8.1-8.3
9	13 Feb	Unsupervised clustering	10.1-10.4
	15 Feb	Unsupervised learning, criterion functions	10.5-10.7
10	20 Feb	Machine learning, resampling, combining classifiers	9.1-9.6
	22 Feb	Course review	-
	27 Feb	Exam Week (Final Exam date TBD)	

Text: Pattern Classification (2nd edition) by Duda, Hart, & Stork, 2001, Wiley

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