Personal Research Bibliography Reference

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Contents

1 Pattern Recognition, Statistical and Machine Learning etc

The excellent modern source on Pattern Recognition is Bishop (2006), it is so good it can even replace the classic Hastie et al. (2001). Very substantial, full of illustrations, examples and somehow more down to the point than Hastie et al.'s work. Still one could benefit from using them and Grenander and Miller (2007) concurrently. Bishop is currently #2 seller in Amazon in Machine Learning category.

Another top Amazon seller in Pattern Recognition is Grenander and Miller (2007) which should be used concurrently with the Bishop (2006); Hastie et al. (2001). It is as good as Bishop, totally focused on applied computer visual tasks, and a little bit (not too much) more technical. The same substantial piece of work.

A classic timeless textbook which is also available in Russian is Schlesinger and Hlavac (2002).

One pointless book on the subject is Schurmann (1996).

Sections of Martinez and Martinez (2005) could be used in the context of visualising some areas mentioned in those books as it deals with Matlab code and graphs for exploratory data analysis.

2 Probability and Statistics

The excellent first place reference source for any probability related question is Rice (1995). It is so monumental it is a recommended reading for STAT210. Other perhaps a little bit more accessible, substantial, full of examples, and no bull is Grinstead and Snell (1997). Other textbook on statistical theory (without processes or models) is Ross (2004). It is a little bit more theoretical, but very well written with plenty of examples. Yet another excellent source which perhaps even can offer a little bit furhter breadth is Clarke and Cook (2005). It goes a little bit further than other books in a number of topics and thus can be quite complimentary.

Sections of Martinez and Martinez (2005) could be used in the context of visualising many areas of introductory statistics mentioned in those books as it deals with Matlab code and graphs for exploratory data analysis.

Finally, many larger books in Sections 3 and 4 would contain more information on standard probability topics.

3 Probability Models and Processes

A good excellently written textbook on everything about Models is Minh and Minh (2001). It is written in the format of Lay's classic algebra and is indispensable as an entry point source for statistical models.

The best book on Markovian and Gibbs theory is Li (1995).

A little bit harder but still pretty accessible sources on models is Ross (2007), which was a very helpful source on the Gibbs processes when I studied them. It is definitely

better than other miscellaneous sources such as the general mathematics reference for digital images Hoggar (2006). And can be complimentary to the simply the best Li (1995) which is the first starting point for random Markov fields or Gibbs processes. A little bit too technical for an introduction is Gimel'farb (1999). Another source on models and processes is Ross (2002) although I'm not sure how much different it is from a little bit bigger in terms of pages Ross (2007).

Quite a technical book, potentially useful is Grimmett and Stirzaker (2001). It comes with a manual for its really old edition which has little use as are just 100% proof based, not a single number. Both sources are recommended material for STAT315 together with Ross (1996) and Minh and Minh (2001). I never borrowed Ross (1996) though.

An excellent source on statistics of signal processing with plenty of extensive derivations, example etc is Kay (1993). It is also one of other must have items for reference.

4 Multivariate Analysis

The best source is Timm (2002). A weaker too wordy source used as STAT330 textbook is Hair (2006) and it is probably only useful if some clarifications or more examples are required. An older book quite technical but useful is Dillon and Goldstein (1984), which I held for some time.

A too theoretical book is Giri (2004) lacking on utility.

Sections of Martinez and Martinez (2005) could be used in the context of visualising many areas of multivariate statistics mentioned in those books as it deals with Matlab code and graphs for exploratory data analysis.

5 ANNS

One pointless book is Schurmann (1996).

6 Linear and Nonlinear Optimisation

The best source is Luenberger and Ye (2008).

References

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