<<数据降维和聚类中的若干问题研究>>

图书基本信息

书名: <<数据降维和聚类中的若干问题研究>>

13位ISBN编号:9787503763076

10位ISBN编号:7503763078

出版时间:2011-8

出版时间:中国统计出版社

作者:赵建华

页数:188

版权说明:本站所提供下载的PDF图书仅提供预览和简介,请支持正版图书。

更多资源请访问:http://www.tushu007.com

<<数据降维和聚类中的若干问题研究>>

内容概要

A central research area in data mining and machine learning is probabilis-tic modeling because it has a number of advantages over non-probabilistic methods. Given a probabilistic model , one could fit the model using max-imum likelihood (ML) method or Variational Bayesian (VB) method. In ML method , (1) many algorithms may converge very slowly and thus com- putationally efficient algorithms are often desirable; and (2) the choice of a suitable modelis difficult though many model selection criteria exist and thus criteria with higher accuracy are desired. In VB method , employing different priors may yield different performances and thus studies on how to choose a suitable prior are important. In this book , three sub-topics were studied: Modeling , Estimation and Model selection for dimension reduc- ition and clustering.

<<数据降维和聚类中的若干问题研究>>

书籍目录

1 Introduction1.1 PCA and Latent Variable Models1.1.1 PCA1.1.2 Latent Variable Models1.1.3 FA and PPCA1.2 Motivations and Contributions1.3 Organization of the Book2 ML Estimation for Factor Analysis: EM or non-EM2.1 Introduction2.2 FA Model and Three Estimation Algorithms2.2.1 FA model2.2.2 Lawley (1940)'s simple iteration algorithm2.2.3 EM type algorithms2.3 TheECME2 algorithm2.3.1 The maximization in the first CM-step2.3.2 The maximization in the second CM-step2.3.3 Practical consideration2.3.4 ECME2 vs. simpleiteration algorithm2.4 The CMAlgorithm2.4.1 The maximizationin the second CM-step2.4.2 When will conditionlbe satisfied2.4.3 Recursive computation ofthe matrix Bz2.4.4 On the nature of stationary points2.5 Simulations2.5.1 Simulation Data2.5.2 Performance Analysis2.5.3 On different starting values2.6 Conclusion and Future Work2.7 Appendix2.7.1 Proofs2.7.2 Some Notes3 Fast ML estimation for the Mixture of Factor Analyzers via an ECM Algorithm3.1 Introduction3.2 MFA model and an ECM algorithm......4 Mixture Model Selection:BIC or Hierarchical BIC5 A Note on Variational Bayesian Factor Analysis6 Bilinear Probabilistic Principal Component Analysis7 Conclusions and discussionsReferences

<<数据降维和聚类中的若干问题研究>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介,请支持正版图书。

更多资源请访问:http://www.tushu007.com