

<<盲信号处理>>

图书基本信息

书名：<<盲信号处理>>

13位ISBN编号：9787313058201

10位ISBN编号：7313058209

出版时间：2011-1

出版时间：上海交通大学出版社

作者：史习智

页数：368

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>

<<盲信号处理>>

内容概要

Blind Signal Processing Theory and Practice not only introduces related fundamental mathematics, but also reflects the numerous advances in the field, such as probability density estimation-based processing algorithms, underdetermined models, complex value methods, uncertainty of order in the separation of convolutive mixtures in frequency domains, and feature extraction using Independent Component Analysis (ICA). At the end of the book, results from a study conducted at Shanghai Jiao Tong University in the areas of speech signal processing, underwater signals, image feature extraction, data compression, and the like are discussed.

This book will be of particular interest to advanced undergraduate students, graduate students, university instructors and research scientists in related disciplines. Xizhi Shi is a Professor at Shanghai Jiao Tong University.

书籍目录

Chapter 1 Introduction1.1 Introduction1.2 Blind Source Separation1.3 Independent Component Analysis (ICA)1.4 The Historical Development and Research Prospect of Blind Signal ProcessingReferencesChapter 2 Mathematical Description of Blind Signal Processing2.1 Random Process and Probability Distribution2.2 Estimation Theory2.3 Information Theory2.4 Higher-Order Statistics2.5 Preprocessing of Signal2.6 Complex Nonlinear Function2.7 Evaluation IndexReferencesChapter 3 Independent Component Analysis3.1 Problem Statement and Assumptions3.2 Contrast Functions3.3 Information Maximization Method of ICA3.4 Maximum Likelihood Method and Common Learning Rule3.5 FastICA Algorithm3.6 Natural Gradient Method3.7 Hidden Markov Independent Component AnalysisReferencesChapter 4 Nonlinear PCA & Feature Extraction4.1 Principal Component Analysis & Infinitesimal Analysis4.2 Nonlinear PCA and Blind Source Separation4.3 Kernel PCA4.4 Neural Networks Method of Nonlinear PCA and Nonlinear Complex PCAResourcesChapter 5 Nonlinear ICA5.1 Nonlinear Model and Source Separation5.2 Learning Algorithm5.3 Extended Gaussianization Method of Post Nonlinear Blind Separation5.4 Neural Network Method for Nonlinear ICA5.5 Genetic Algorithm of Nonlinear ICA Solution5.6 Application Examples of Nonlinear ICAResourcesChapter 6 Convolutional Mixtures and Blind Deconvolution6.1 Description of Issues6.2 Convolutional Mixtures in Time-Domain6.3 Convolutional Mixtures Algorithms in Frequency-Domain6.4 Frequency-Domain Blind Separation of Speech Convolutional Mixtures6.5 Busgang Method6.6 Multi-channel Blind DeconvolutionReferencesChapter 7 Blind Processing Algorithm Based on Probability Density Estimation7.1 Advancing the Problem7.2 Nonparametric Estimation of Probability Density Function7.3 Estimation of Evaluation Function7.4 Blind Separation Algorithm Based on Probability Density Estimation7.5 Probability Density Estimation of Gaussian Mixtures Model7.6 Blind Deconvolution Algorithm Based on Probability Density Function Estimation7.7 On-line Algorithm of Nonparametric Density EstimationReferencesChapter 8 Joint Approximate Diagonalization Method8.1 Introduction8.2 JAD Algorithm of Frequency-Domain Feature8.3 JAD Algorithm of Time-Frequency Feature8.4 Joint Approximate Block Diagonalization Algorithm of Convolutional Mixtures8.5 JAD Method Based on Cayley Transformation8.6 Joint Diagonalization and Joint Non-Diagonalization Method8.7 Nonparametric Density Estimating Separating Method Based on Time-Frequency AnalysisReferencesChapter 9 Extension of Blind Signal Processing9.1 Blind Signal Extraction9.2 From Projection Pursuit Technology to Nonparametric Density Estimation-Based ICA9.3 Second-Order Statistics Based Convolutional Mixtures Separation Algorithm9.4 Blind Separation for Fewer Sensors than Sources--Underdetermined Model9.5 FastICA Separation Algorithm of Complex Numbers in Convolutional Mixtures9.6 On-line Complex ICA Algorithm Based on Uncorrelated Characteristics of Complex Vectors9.7 ICA-Based Wigner-Ville Distribution9.8 ICA Feature Extraction9.9 Constrained ICA9.10 Particle Filtering Based Nonlinear and Noisy ICAResourcesChapter 10 Data Analysis and Application Study10.1 Target Enhancement in Active Sonar Detection10.2 ECG Artifacts Rejection in EEG with ICA10.3 Experiment on Underdetermined Blind Separation of A Speech Signal10.4 ICA in Human Face Recognition10.5 ICA in Data Compression10.6 Independent Component Analysis for Functional MRI Data Analysis10.7 Speech Separation for Automatic Speech Recognition System10.8 Independent Component Analysis of Microarray Gene Expression Data in the Study of Alzheimer's Disease (AD)ReferencesIndex

<<盲信号处理>>

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>