

<<Hidden Markov models>>

图书基本信息

书名：<<Hidden Markov models for bioinformatics生物信息中隐藏的马可夫模式>>

13位ISBN编号：9781402001352

10位ISBN编号：1402001355

出版时间：2001-1

出版时间：化学工业出版社

作者：T. Koski

页数：391

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>

<<Hidden Markov models>>

内容概要

The purpose of this book is to give a thorough and systematic introduction to probabilistic modeling in bioinformatics. The book contains a mathematically strict and extensive presentation of the kind of probabilistic models that have turned out to be useful in genome analysis. Questions of parametric inference, selection between model families, and various architectures are treated. Several examples are given of known architectures (e.g., profile HMM) used in genome analysis. Audience: This book will be of interest to advanced undergraduate and graduate students with a fairly limited background in probability theory, but otherwise well trained in mathematics and already familiar with at least some of the techniques of algorithmic sequence analysis.

<<Hidden Markov models>>

书籍目录

Foreword1 Prerequisites in probability calculus 1.1 Background 1.2 Formulae and Definitions 1.2.1 Alphabet, Sequence 1.2.2 Random Variables and their Distributions 1.2.3 Joint Probability Distributions 1.2.4 Conditional Probability Distributions 1.2.5 A Chain Rule 1.2.6 Independence 1.2.7 Conditional Independence 1.2.8 Probability Models with Independence 1.2.9 Multinomial Probability Distribution 1.2.10 A Weight Matrix Model for a Family of Sequences 1.2.11 Simplifying Notations 1.3 Learning and Bayes' Rule 1.3.1 Bayes' Rule 1.3.2 A Missing Information Principle and Inference 1.4 Some Distributions for DNA Analysis 1.4.1 Fragment Accuracy 1.4.2 The Distribution of the Number of Fragments 1.5 Expectation 1.6 Jensen's Inequality 1.7 Conditional Expectation 1.8 Law of Large Numbers 1.9 Exercises 1.10 References and Further Reading:2 Information and the Kullback Distance 2.1 Introduction 2.2 Mutual Information 2.3 Properties of Mutual Information 2.3.1 Entropy 2.3.2 Some Further Formulas 2.4 Shannon's Source Coding Theorems 2.4.1 AEP 2.4.2 The Source Coding Theorem 2.4.3 Lossless Compression Codes and Entropy 2.5 Kullback Distance 2.5.1 Definition and Examples 2.5.2 Calibration 2.5.3 Properties 2.6 The Score and the Fisher Information 2.7 Exercises on Mutual Information and Codelengths 2.8 Kullback Distance and Fisher Information 2.9 References and Further Reading3 Probabilistic Models and Learning 3.1 Introduction 3.2 Bayesian probability 3.2.1 Chance and Probability 3.2.2 Coherence 3.3 Models with Conditional Independence 3.3.1 Modelling and Learning for Tosses of a Thumb tack 3.3.2 Learning of the Multinomial Process 3.3.3 General Summary 3.4 Comparison of Model Families 3.4.1 Bayes Factor 3.4.2 Inductive Learning, Updates 3.5 Some Asymptotics for Evidence 3.6 Evidence and Bayesian Codelengths... ..4 EM Algorithm5 Alignment and Scoring6 Mixture Models and Profiles7 Markov Chains8 Learning of Markov Chains9 Markovian Models for DNA sequences10 Hidden Markov Models: and Overview11 HMM for DNA Sequences12 Left to Right HMM for Sequences13 Derin's Algorithm14 Forward-Backward Algorithm15 Baum-Welch Learning Algorithm16 Limit Points of Baum-Welch17 Asymptotics of Learning18 Full probabilistic HMMIndex

<<Hidden Markov models>>

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>