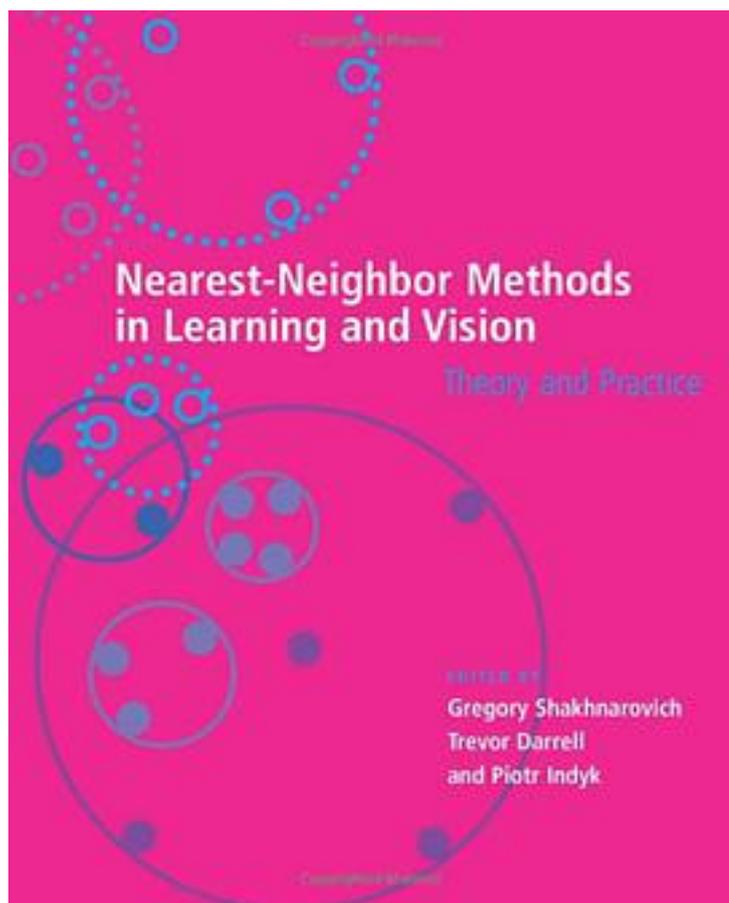


# Nearest-Neighbor Methods in Learning and Vision



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著者:Shakhnarovich, Gregory (EDT)/ Darrell, Trevor (EDT)/ Indyk, Piotr (EDT)

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Regression and classification methods based on similarity of the input to stored examples have not been widely used in applications involving very large sets of high-dimensional data. Recent advances in computational geometry and machine learning, however, may alleviate the problems in using these methods on large data

sets. This volume presents theoretical and practical discussions of nearest-neighbor (NN) methods in machine learning and examines computer vision as an application domain in which the benefit of these advanced methods is often dramatic. It brings together contributions from researchers in theory of computation, machine learning, and computer vision with the goals of bridging the gaps between disciplines and presenting state-of-the-art methods for emerging applications. The contributors focus on the importance of designing algorithms for NN search, and for the related classification, regression, and retrieval tasks, that remain efficient even as the number of points or the dimensionality of the data grows very large. The book begins with two theoretical chapters on computational geometry and then explores ways to make the NN approach practicable in machine learning applications where the dimensionality of the data and the size of the data sets make the naive methods for NN search prohibitively expensive. The final chapters describe successful applications of an NN algorithm, locality-sensitive hashing (LSH), to vision tasks.

作者介绍:

目录: Preface

Chapter 1: Introduction

I Theory

Chapter 2: Nearest-Neighbor Searching and Metric Space Dimensions by K. L. Clarkson.

Chapter 3: Locality-Sensitive Hashing Using Stable Distributions by A. Andoni, M. Datar, N. Immorlica, P. Indyk, and V. Mirrokni.

II Learning

Chapter 4: New Algorithms for Efficient High-Dimensional Nonparametric Classification by T. Liu, A. W. Moore, and A. Gray.

Chapter 5: Approximate Nearest Neighbor Regression in Very High Dimensions by S. Vijayakumar, A. D'Souza, and S. Schaal.

Chapter 6: Learning Embeddings for Fast Approximate Nearest Neighbor Retrieval by V. Athitsos, J. Alon, S. Sclaroff, and G. Kollios.

III Vision

Chapter 7: Parameter-Sensitive Hashing for Fast Pose Estimation by G. Shakhnarovich, P. Viola, and T. Darrell.

Chapter 8: Contour Matching Using Approximate Earth Mover's Distance by K. Grauman and T. Darrell.

Chapter 9: Adaptive Mean Shift Based Clustering in High Dimensions by I. Shimshoni, , and P. Meer.

Chapter 10: Object Recognition using Locality Sensitive Hashing of Shape Contexts by A. Frome and J. Malik.

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标签

机器学习

研究

## 评论

其实LSH不是一个特别简单的问题...

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不期而遇的一本书，最后两章正是我需要的

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## 书评

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