The book was found

Pattern Classification (Pt.1)

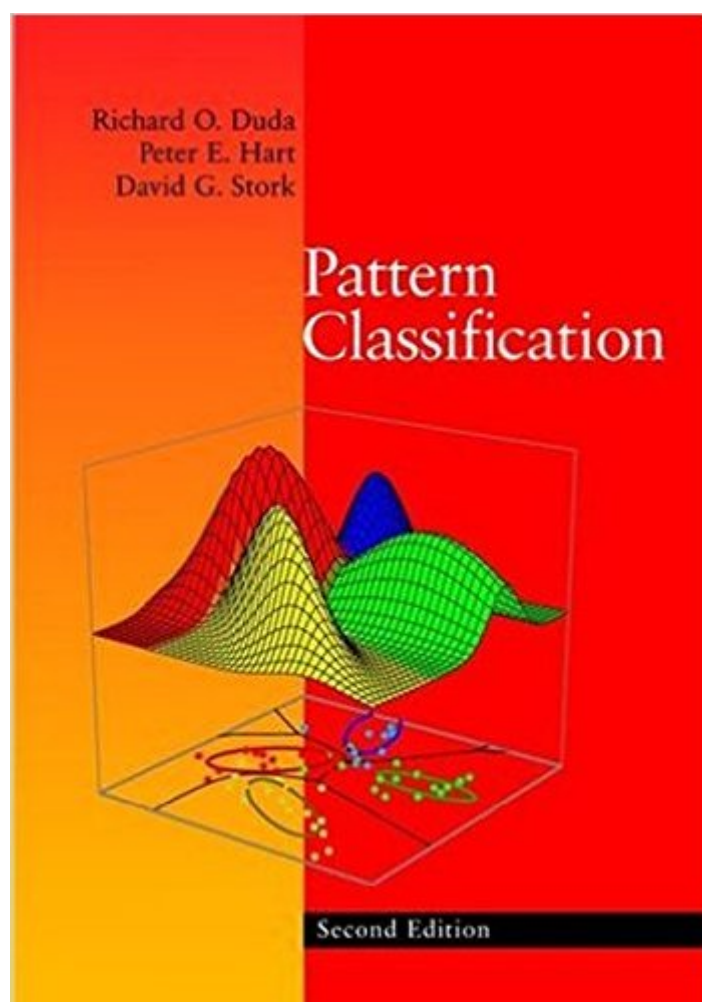Richard O. Duda
Peter E. Hart
David G. Stork

Pattern Classification

Second Edition

Synopsis

The first edition, published in 1973, has become a classic reference in the field. Now with the second edition, readers will find information on key new topics such as neural networks and statistical pattern recognition, the theory of machine learning, and the theory of invariances. Also included are worked examples, comparisons between different methods, extensive graphics, expanded exercises and computer project topics. An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department.

Book Information

Hardcover: 680 pages

Publisher: Wiley-Interscience; 2 edition (November 9, 2000)

Language: English

ISBN-10: 0471056693

ISBN-13: 978-0471056690

Product Dimensions: 7.3 x 1.2 x 10.3 inches

Shipping Weight: 2.9 pounds (View shipping rates and policies)

Average Customer Review: 3.8 out of 5 stars See all reviews (41 customer reviews)

Best Sellers Rank: #63,517 in Books (See Top 100 in Books)   #13 in Books > Computers & Technology > Computer Science > AI & Machine Learning > Computer Vision & Pattern Recognition   #30 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Digital Design   #857 in Books > Textbooks > Computer Science

Customer Reviews

This book is a revised edition of Duda and Hart's classic text on Pattern Classification which was originally published in 1973. In fact, the 1973 edition of the book played a pivotal role in introducing me (and countless researchers of my generation) to the field of pattern classification. Needless to say, I was looking forward to the release of the revised edition. Unfortunately, I was extremely disappointed with the new edition. I had expected much more from the masters: Duda and Hart!My reasons for disappointment with this book are as follows:Given the 27 years that have elapsed since the publication of the first edition of the book, and the immense progress that has taken place in pattern recognition, machine learning, computational learning theory, grammar inference, statistical inference, algorithmic information theory, and related areas, the revisions and additions in the 2000 edition are essentially of a patchwork nature. In my opinion, they do not reflect the current understanding of the topic of pattern classification.A disproportionate number of pages are devoted

to topics like density estimation despite the fact that it has been well established in recent years, through the work of Vapnik and others, that when working with limited data, trying to solve the problem of pattern classification through density estimation (which turns out to be, in a well-defined sense of the term, a much harder problem than pattern classification) is rather futile. When modern techniques for learning pattern classifiers from limited data sets (e.g., support vector classifiers) are touched on in the book, the treatment is disappointingly superficial and in some cases, misleading.

The 1973 edition of Pattern Classification by Richard Duda and Peter Hart is one of the most cited books in the fields of image processing, machine vision, and classification. It contains perhaps the clearest, most comprehensible descriptions of statistical inference ever written. Though intended for the image processing audience, it is general in its approach, and is broader in coverage than other contemporary books like the redoubtable Van Trees (1969). The section on Bayesian Learning anticipates the EM algorithm which appeared a few years later (Dempster, et al. 1977) and their description of Parzen windows for density estimation is more often cited than Parzen's own papers.The appearance of the 2000 2nd edition led this writer to wonder if D&H could repeat with an offering as good as their first. In particular, would D&H have kept up with the considerable growth in methodology in the 1990s? Well, they have! With the addition of David Stork as third author, the second addition re-presents the basic theory, illustrated with some beautiful and complex figures, and knits it neatly with an exposition of neural networks, stochastic methods for posterior determination, nonmetric classification (tree search and string parsing), and clustering. Chapter 9 is a particularly interesting review of the recent machine learning research making the point that, absent knowledge of a problem's specific domain, no one classifier is better that any other. This chapter also reviews solutions to the problem of training on too-small samples including the Jackknife and bootstrap methods, and newer bagging and boosting algorithms popular in data mining applications.

The 1973 book by Duda and Hart was a classic. It surveyed the literature on pattern classification and scene analysis and provided the practitioner with wonderful insight and exposition of the subject. In the intervening 28 years the field has exploded and there has been an enormous increase in technical approaches and applications.With this in mind the authors and their new coauthor David Stork go about the task of providing a revision. True to the goals of the original the authors undertake to describe pattern recognition under a variety of topics and with several available methods to cover each topic. Important new areas are covered and old but now deemed

less significant are dropped. Advances in statistical computing and computing in general also dictate the topics. So although the authors are the same and the title is almost the same (note that scene analysis is dropped from the title) it is more like an entirely new book on the subject rthan a revision of the old. For a revision, I would expect to see mostly the same chapters with the same titles and only a few new chapters along with expansion of old chapters.Although I view this as a new book, that is not necessarily bad. In fact it may be viewed as a strength of the book. It maintains the style and clarity of the original that we all loved but represents the state-of-the-art in pattern recognition at the beginning of the 21st Century.The original had some very nice pictures. I liked some of them so much that I used them with permission in the section on classification error rate estimation in my bootstrap book. This edition goes much further with beautiful graphics including many nice three-dimensional color pictures like the one on the cover page.

WHO Classification of Tumours of the Urinary System and Male Genital Organs (IARC WHO Classification of Tumours) WHO Classification of Tumours of Soft Tissue and Bone (IARC WHO Classification of Tumours) DDC 22 Dewey Decimal Classification and Relative Index (Dewey Decimal Classification & Relative Index) Introduction to Cataloging and Classification, 10th Edition (Introduction to Cataloging & Classification (Paperback)) Classification System for Church Libraries: Based on the Dewy Decimal Classification System Pattern Classification (Pt.1) HERE COMES THE GROOM! Crocheted Doll Pattern. A vintage 1951 crochet pattern. Text-to-Speech enabled. Available for Download to Kindle DX, Kindle for PC, ... groom, bridegroom, bridal shower gift) The Collector's Encyclopedia of Pattern Glass: A Pattern Guide to Early American Pressed Glass Woodworker's Pattern Library: Alphabets & Numbers (The Woodworker's Pattern Library) Ending Spam: Bayesian Content Filtering and the Art of Statistical Language Classification Data Classification: Algorithms and Applications (Chapman & Hall/CRC Data Mining and Knowledge Discovery Series) Hardware Based Packet Classification for High Speed Internet Routers The Iris Family: Natural History and Classification Hydroponics for Beginners. How to Grow Hydroponics at Home: Light for Hydroponics, Special Lighting Lamps for Rapid Growth, Classification and Calculation of Lighting (Volume 1) A Human Error Approach to Aviation Accident Analysis: The Human Factors Analysis and Classification System ISO 14644-1:1999, Cleanrooms and associated controlled environments -- Part 1: Classification of air cleanliness Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood, (DC: 0-3R) Character Strengths and Virtues: A Handbook and Classification 2016 Super ICD-10-CM (Classification of Diseases and Injuries) The classification and treatment of injuries to the teeth of children