PATTERN RECOGNITION AND MACHINE LEARNING
CHRISTOPHER M. BISHOP

Springer

1st edition

2006, XX, 738 p.

Printed book
Hardcover

Printed book
Hardcover
ISBN 978-0-387-31073-2
£ 74,99 | CHF 100,50 | 84,99 € |
93,49 € (A) | 90,94 € (D)
Available

Discount group
Standard (0)

Product category
Graduate/advanced undergraduate textbook

Series
Information Science and Statistics

Other renditions
Softcover
ISBN 978-1-4939-3843-8

Computer Science : Pattern Recognition

Bishop, Christopher M.

Pattern Recognition and Machine Learning

- First text on pattern recognition to present the Bayesian viewpoint, one that has become increasing popular in the last five years.
- Presents approximate inference algorithms that permit fast approximate answers in situations where exact answers are not feasible
- First text to use graphical models to describe probability distributions. There are no other books that apply graphical models to machine learning.
- First four-color book on pattern recognition

Pattern recognition has its origins in engineering, whereas machine learning grew out of computer science. However, these activities can be viewed as two facets of the same field, and together they have undergone substantial development over the past ten years. In particular, Bayesian methods have grown from a specialist niche to become mainstream, while graphical models have emerged as a general framework for describing and applying probabilistic models. Also, the practical applicability of Bayesian methods has been greatly enhanced through the development of a range of approximate inference algorithms such as variational Bayes and expectation pro- gation. Similarly, new models based on kernels have had significant impact on both algorithms and applications. This new textbook reacts these recent developments while providing a comprehensive introduction to the fields of pattern recognition and machine learning. It is aimed at advanced undergraduates or first year PhD students, as well as researchers and practitioners, and assumes no previous knowledge of pattern recognition or - chine learning concepts. Knowledge of multivariate calculus and basic linear algebra is required, and some familiarity with probabilities would be helpful though not essential as the book includes a self-contained introduction to basic probability theory.

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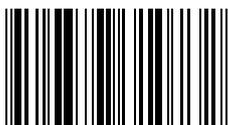Customer Service
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