Vapnik, Vladimir N.
Statistical learning theory. (English) Zbl 0935.62007
Adaptive and Learning Systems for Signal Processing, Communications, and Control. Chichester: Wiley. xxvi, 736 p. (1998).

This book presents a comprehensive study of learning processes that explores ways of estimating functional dependency from a given collection of data. It covers important topics of classical statistics. In particular: discriminant analysis, regression analysis and density estimation problems. This book provides a detailed coverage of the theory of learning and generalization that analyses factors responsible for generalization and shows how to control these factors in order to generalize well. It explains some methods that provide generalization when estimating a multidimensional function from a limited collection of data. In addition, it studies uniform laws of large numbers that make generalization possible.

The book is written at a level for use in a graduate course on learning theory in statistics, mathematics, physics, engineering and computer science. It will be helpfull in a special course on empirical processes for Ph. D. students in mathematics and statistics.

Reviewer: J.Martyna (Kraków)

MSC:

62-02	Research exposition (monographs, survey articles) pertaining to statistics
68T05	Learning and adaptive systems in artificial intelligence
68-02	Research exposition (monographs, survey articles) pertaining to computer science
62Fxx	Parametric inference

Cited in **5** Reviews
Cited in **1098** Documents

Keywords:

learning systems; functional dependency; discriminant analysis; regression; density estimation; generalization