

Cortes, Corinna; Vapnik, Vladimir**Support-vector networks.** (English) Zbl 0831.68098

Mach. Learn. 20, No. 3, 273-297 (1995).

Summary: The support-vector network is a new learning machine for two-group classification problems. The machine conceptually implements the following idea: input vectors are nonlinearly mapped to a very high- dimension feature space. In this feature space a linear decision surface is constructed. Special properties of the decision surface ensures high generalization ability of the learning machine. The idea behind the support-vector network was previously implemented for the restricted case where the training data can be separated without errors. We here extend this result to non-separable training data. High generalization ability of support-vector network utilizing polynomial input transformations is demonstrated. We also compare the performance of the support-vector network to various classical learning algorithms that all took part in a benchmark study of Optical Character Recognition.

MSC:**68T05** Learning and adaptive systems in artificial intelligenceCited in **1** Review
Cited in **651** Documents**Keywords:**

radial basis function classifiers; support-vector network; learning machine