

STANFORD UNIVERSITY
DEPARTMENT OF STATISTICS
DEPARTMENTAL SEMINAR

4:15 p.m., Tuesday, August 14, 2001
Sequoia Hall Rm. 200
(Cookies at 3:45 in 1st Floor Lounge)

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The support vector machine and related classification methods

In this talk, I will present some results on the statistical properties of the support vector machine and some related classification methods. I will first give a (very brief) overview of the development of the support vector machine. After introducing a regularization formulation of the support vector machine, I will present some results shedding light on how the support vector machine works. Consistency and rate of convergence to the Bayes risk (the expected misclassification rate of the theoretical optimal classification rule) will be introduced.

Many machine learning methods for classification are based on cost functions that depend only on the margin. The support vector machine is one example. In this talk I will also present some results on methods based on a general class of cost functions of the margin.