

**Meeting:** 1002, Pittsburgh, Pennsylvania, schapire,

1002-68-4            **Robert Schapire\***, Department of Computer Science, Princeton University. *The boosting approach to machine learning.*

Machine learning studies the design of computer algorithms that automatically make predictions about the unknown based on past observations. Often, the goal is to learn to categorize objects into one of a relatively small set of classes. This talk will focus on a general-purpose machine-learning method for such problems called boosting. The main idea of this method is to produce a very accurate classification rule by combining rough and moderately inaccurate “rules of thumb.” While rooted in a theoretical framework of machine learning, boosting has been found to perform quite well empirically. In this talk, I will introduce the boosting algorithm AdaBoost, and explain the underlying theory of boosting, including our explanation of why boosting often does not suffer from overfitting. Time permitting, I may also mention a few of the myriad other theoretical points of view that have been taken on this single algorithm, as well as some recent applications. (Received November 21, 2003)