

Lecture 1: The Course at a Glance

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Description

We introduce and motivate the main theme of the course, setting the problem of learning from examples as the problem of approximating a multivariate function from sparse data. We present an overview of the theoretical part of the course and sketch the connection between classical Regularization Theory and its algorithms -- including Support Vector Machines -- and Learning Theory, the two cornerstones of the course. We mention theoretical developments during the last few months that provide a new perspective on the foundations of the theory. We briefly describe several different applications ranging from vision to computer graphics, to finance and neuroscience.

Suggested Reading

T. Poggio and S. Smale. **The Mathematics of Learning: Dealing with Data**. Notices of the AMS, 2003
