Lecture 16:
Alex Rakhlin

Description

We relate consistency or empirical risk minimization (ERM) with uniform convergence in probability over function classes. We prove generalization bounds for ERM in a bounded RKHS.

Suggested Reading

- V. N. Vapnik. **The Nature of Statistical Learning Theory.** Springer, 1995.
- Cucker and Smale. **On the mathematical foundations of learning.** Bulletin of the American Mathematical Society, 2002.
- Ding-Xuan Zhou. **Capacity of Reproducing Kernel Spaces in Learning Theory.** to appear in IEEE Trans. on Info. Theory, 2003.
- V. N. Vapnik and A. Ya. Chervonenkis. **Necessary and Sufficient conditions for the uniform convergence of the means to their expectations.** Probability Theory and Applications, 26, 532-553 1981.