

# Lecture 12: Online Learning

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### Description

To introduce the general setting of online learning. To describe an online version of the RLS algorithm and analyze its performance. To discuss convergence results of the classical Perceptron algorithm. To introduce the "experts" framework and prove mistake bounds in that framework. To show the relationship between online learning and the theory of learning in games.

### Suggested Reading

- Duda, Hart, Stork. **Pattern Classification**. Wiley Interscience 2001.
  - Smale, Yao. **Online Learning Algorithms**. to appear on Foundations of Computational Mathematics.
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