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SEMINAR

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304 Whitehead Hall  
Refreshments: 3:30 p.m.  
Seminar: 4:00 p.m.

STOCHASTIC APPROXIMATION FOR FEATURE SELECTION IN  
PATTERN RECOGNITION

ABSTRACT

We address the issue of feature selection from a large dictionary of variables (that can be computed from a signal or an image) in the context of object- or pattern-recognition. The approach consists in estimating an optimal probability distribution on the feature set which will weight the variables that contribute the most to the classification. This is implemented via stochastic algorithms, which approximate ODEs or constrained diffusions. The method is tested on several pattern-recognition problems including face detection, handwritten digit recognition, and spam classification.

(This is joint work with S. Gadat.)