Seminar Announcement: Computational Learning

This coming Spring semester, LING 219R ("Advanced Phonology") will offer an overview of topics in computational learning as applied to both phonology and syntax. We will focus on approaches to inducing hidden variables (which include, e.g., syntactic category labels; syntactic and phonological parameters; underlying forms; and foot structure).

Previous computational background is not necessary: an introduction to R, a simple scripting environment that is also highly useful for statistics and data analysis, will be offered.

In keeping with the official name of the course ("Advanced Phonology"), we will look at models that are useful for phonology. However, each model is also equally applicable and useful in the domain of syntax, and I hope to provide a balance of phonological and syntactic examples.

Examples of models that may be included in the discussion include Markov Models, Expectation Maximization, Bayesian models, Maximum Entropy models, and data clustering models. The grammar frameworks that our learners will be related to will include Principles and Parameters as well as Optimality Theory. It might also be interesting to explore so-called iterated learning, which is one way of simulating historical change. Since this is a seminar, student input will be important in shaping the content of the course.

Any questions and/or comments should be directed towards Aleksei Nazarov (anazarov@fas.harvard.edu).