

A TALE OF THREE REGRESSION PROBLEMS

Alexander Rakhlin

University of Pennsylvania, USA

rakhlin@wharton.upenn.edu

We consider the problem of regression in three scenarios: (a) random design under the assumption that the model F is correctly specified, (b) distribution-free statistical learning with respect to a reference class F ; and (c) online regression with no assumption on the generative process. The first problem is often studied in the literature on nonparametric estimation, the second falls within the purview of statistical learning theory, and the third is studied within the online learning community. Do these three problems really differ from the minimax point of view? This question will be addressed in this talk.

Joint work with Karthik Sridharan (Cornell University) and Sasha Tsybakov (ENSAE-Paris Tech).