Séminaire de Probabilités et Statistique

Mardi 13 avril à 14h00

ZOOM

Jaouad Mourtada

ENSAE

Distribution-free robust linear regression

We consider the problem of random-design linear regression, in a distribution-free setting where no assumption is made on the distribution of the predictive/input variables. After surveying existing approaches and indicating some improvements through truncation, we explain why they fall short in our setting, sometimes in perhaps unexpected ways. We then identify the minimal assumption on the target/output variable under which guarantees are possible, and describe a nonlinear prediction procedure achieving the optimal high-probability error bound.