Métodos de agregación en clasificación

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Abstract Let F be a set of M classification procedures with values in $[-1,1]$. Given a loss function, we want to construct a procedure which mimics at the best possible rate the best procedure in F. This fastest rate is called optimal rate of aggregation. Considering a continuous scale of loss functions with various types of convexity, we prove that optimal rates of aggregation can be either $((\log M)/n)^{1/2}$ or $(\log M)/n$. We prove that the (penalized) Empirical Risk Minimization procedures are suboptimal (even under the margin/low noise condition) when the loss function is somewhat more than convex, whereas, in that case, aggregation procedures with exponential weights achieve the optimal rate of aggregation.