″ Unobserved Heterogeneity in Longitudinal Data: An Empirical Bayes Perspective″

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Abstract

Empirical Bayes methods for Gaussian and binomial compound decision problems involving longitudinal data are considered. A new convex optimization formulation of the nonparametric (Kiefer-Wolfowitz) maximum likelihood estimator for mixture models can be used to construct nonparametric Bayes rules for compound decisions. The methods are illustrated with some simulation examples as well as an application to predicting baseball batting averages. Comparisons with nonparametric Bayesian methods based on Dirichlet process priors are also provided.