Parametric mode regression for bounded data

Xianzheng Huang

University of South Carolina
E-mail: huang@stat.sc.edu

Abstract: We propose new parametric frameworks of regression analysis with the conditional mode of a bounded response as the focal point of interest. Covariates effects estimation and prediction based on the maximum likelihood method under two new classes of regression models are demonstrated. We also develop graphical and numerical diagnostic tools to detect various sources of model misspecification. Predictions based on different central tendency measures inferred using various regression models are compared in simulations and real life applications.