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"Nonparametric regression with group testing data"

Group testing data refer to binary data that are observed in an aggregated groupwise form. Typically, the variable of interest is the disease status of a patient, measured for example through a blood test. Instead of testing the blood of each patient in the study, the patients are pooled in groups, and only the pooled blood is tested for the disease. In those studies, it is often of interest to estimate the probability of having the disease given some observed covariates. We introduce new nonparametric estimators for this problem, under several possible grouping settings, and study the effect that grouping the data has on the quality of estimators.