MAXIMUM LIKELIHOOD COMPUTATION FOR RETROSPECTIVE SAMPLING AND MISSING DATA PROBLEMS

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We discuss computational methods for semiparametric maximum likelihood estimation for a class of likelihood functions with numerous applications to the fitting of regression models to data from response-selective research designs such as generalizations of the case-control study and to structured missing data problems. Examples include fitting logistic and linear regression models to data from two-phase sampling designs, maximum likelihod for casecontrol family studies, methods for secondary analyses of case-control sampled data that employ a response variable that differs from that used for sampling, and semiparametetric maximum likelihood for case-control studies that exploit gene-environment independence.