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method; 3.5 Application to data; 3.6 Simulations; 3.7 Application to real data; 3.7.1 Trout PCB data; 3.8 Use of MATLAB toolbox; 3.8.1 Running the program; 3.8.2 Main figure; 3.8.3 Setting the parameters; 3.8.4 Eye-control method; 3.8.5 The final estimation; 3.9 Complements; 4. Kernel estimation and reliability assessment; 4.1 Basic Definition; 4.2 Estimation of ROC curves; 4.2.1 Binormal model; 4.2.2 Nonparametric estimates; 4.3 Summary indices based on the ROC curve; 4.3.1 Area under the ROC curve
4.3.2 Maximum improvement of sensitivity over chance diagonal (MIS)
4.4 Other indices of reliability assessment; 4.4.1 Cumulative Lift; 4.4.2 Lift Ratio; 4.4.3 Integrated Relative Lift; 4.4.4 Information Value; 4.4.5 KR index; 4.5 Application to real data; 4.5.1 Head trauma data; 4.5.2 Pancreatic cancer data; 4.5.3 Consumer loans data; 4.6 Use of MATLAB toolbox; 4.6.1 Running the program; 4.6.2 Start menu; 4.6.3 Simulation menu; 4.6.4 The final estimation; 5. Kernel estimation of a hazard function; 5.1 Basic definition; 5.2 Statistical properties of the estimate; 5.3 Choosing the bandwidth
5.3.1 Cross-validation method
5.3.2 Maximum likelihood method; 5.3.3 Iterative method; 5.3.4 Acceptable bandwidths; 5.3.5 Points of the most rapid change; 5.4 Description of algorithm; 5.5 Application to real data; 5.5.1 Breast carcinoma data; 5.5.2 Cervix carcinoma data; 5.5.3 Chronic lymphocytic leukaemia; 5.5.4 Bone marrow transplant; 5.6 Use of MATLAB toolbox; 5.6.1 Running the program; 5.6.2 Main figure; 5.6.3 Setting the parameters; 5.6.4 Eye-control method; 5.6.5 The final estimation; 5.7 Complements; Simulation of lifetimes; Simulation of censoring times
6. Kernel estimation of a regression function

Sommario/riassunto

Methods of kernel estimates represent one of the most effective nonparametric smoothing techniques. These methods are simple to understand and they possess very good statistical properties. This book provides a concise and comprehensive overview of statistical theory and in addition, emphasis is given to the implementation of presented methods in Matlab. All created programs are included in a special toolbox which is an integral part of the book. This toolbox contains many Matlab scripts useful for kernel smoothing of density, cumulative distribution function, regression function, hazard funct
