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Nota di contenuto	Semiparametric Regression for the Social Sciences; Contents; List of Tables; List of Figures; Preface; 1 Introduction: Global versus Local Statistics; 1.1 The Consequences of Ignoring Nonlinearity; 1.2 Power Transformations; 1.3 Nonparametric and Semiparametric Techniques; 1.4 Outline of the Text; 2 Smoothing and Local Regression; 2.1 Simple Smoothing; 2.1.1 Local Averaging; 2.1.2 Kernel Smoothing; 2.2 Local Polynomial Regression; 2.3 Nonparametric Modeling Choices; 2.3.1 The Span; 2.3.2 Polynomial Degree and Weight Function; 2.3.3 A Note on Interpretation 2.4 Statistical Inference for Local Polynomial Regression 2.5 Multiple Nonparametric Regression; 2.6 Conclusion; 2.7 Exercises; 3 Splines; 3.1 Simple Regression Splines; 3.1.1 Basis Functions; 3.2 Other Spline Models and Bases; 3.2.1 Quadratic and Cubic Spline Bases; 3.2.2 Natural Splines; 3.2.3 B-splines; 3.2.4 Knot Placement and Numbers; 3.2.5 Comparing Spline Models; 3.3 Splines and Overfitting; 3.3.1 Smoothing Splines; 3.3.2 Splines as Mixed Models; 3.3.3 Final Notes on

Smoothing Splines; 3.3.4 Thin Plate Splines; 3.4 Inference for Splines; 3.5 Comparisons and Conclusions; 3.6 Exercises
4 Automated Smoothing Techniques4.1 Span by Cross-Validation; 4.2 Splines and Automated Smoothing; 4.2.1 Estimating Smoothing Through the Likelihood; 4.2.2 Smoothing Splines and Cross-Validation; 4.3 Automated Smoothing in Practice; 4.4 Automated Smoothing Caveats; 4.5 Exercises; 5 Additive and Semiparametric Regression Models; 5.1 Additive Models; 5.2 Semiparametric Regression Models; 5.3 Estimation; 5.3.1 Back.tting; 5.4 Inference; 5.5 Examples; 5.5.1 Congressional Elections; 5.5.2 Feminist Attitudes; 5.6 Discussion; 5.7 Exercises; 6 Generalized Additive Models
6.1 Generalized Linear Models6.2 Estimation of GAMS; 6.3 Statistical Inference; 6.4 Examples; 6.4.1 Logistic Regression: The Liberal Peace; 6.4.2 Ordered Logit: Domestic Violence; 6.4.3 Count Models: Supreme Court Overrides; 6.4.4 Survival Models: Race Riots; 6.5 Discussion; 6.6 Exercises; 7 Extensions of the Semiparametric Regression Model; 7.1 Mixed Models; 7.2 Bayesian Smoothing; 7.3 Propensity Score Matching; 7.4 Conclusion; 8 Bootstrapping; 8.1 Classical Inference; 8.2 Bootstrapping - An Overview; 8.2.1 Bootstrapping; 8.2.2 An Example: Bootstrapping the Mean
8.2.3 Bootstrapping Regression Models8.2.4 An Example: Presidential Elections; 8.3 Bootstrapping Nonparametric and Semiparametric Regression Models; 8.3.1 Bootstrapping Nonparametric Fits; 8.3.2 Bootstrapping Nonlinearity Tests; 8.4 Conclusion; 8.5 Exercises; 9 Epilogue; Appendix: Software; Bibliography; Author's Index; Subject Index

Sommario/riassunto

An introductory guide to smoothing techniques, semiparametric estimators, and their related methods, this book describes the methodology via a selection of carefully explained examples and data sets. It also demonstrates the potential of these techniques using detailed empirical examples drawn from the social and political sciences. Each chapter includes exercises and examples and there is a supplementary website containing all the datasets used, as well as computer code, allowing readers to replicate every analysis reported in the book. Includes software for implementing the methods in S-Plus
