1. Record Nr. UNINA9910144694903321

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Titolo	Sensitivity analysis in linear regression [[electronic resource] /] / Samprit Chatterjee, Ali S. Hadi
Pubbl/distr/stampa	New York, : Wiley, c1988
ISBN	1-282-30736-3 9786612307362 0-470-31676-4 0-470-31742-6
Descrizione fisica	1 online resource (341 p.)
Collana	Wiley series in probability and mathematical statistics. Applied probability and statistics
Altri autori (Persone)	HadiAli S
Disciplina	519.5 519.536
Soggetti	Regression analysis Perturbation (Mathematics) Mathematical optimization
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliography and index.
Nota di contenuto	Sensitivity Analysis in Linear Regression; PREFACE; Contents; 1. INTRODUCTION; 1.1. Introduction; 1.2. Notations; 1.3. Standard Estimation Results in Least Squares; 1.4. Assumptions; 1.5. Iterative Regression Process; 1.6. Organization of the Book; 2. PREDICTION MATRIX; 2.1.Introduction; 2.2. Roles of P and (I -P) in Linear Regression; 2.3. Properties of the Prediction Matrix; 2.3.1. General Properties; 2.3.2. Omitting (Adding) Variables; 2.3.3. Omitting (Adding) an Observation; 2.3.4. Conditions for Large Values of pii; 2.3.5. Omitting Multiple Rows of X; 2.3.6. Eigenvalues of P and (I- P) 2.3.7. Distribution of pu2.4. Examples; 3. ROLE OF VARIABLES IN A REGRESSION EQUATION; 3.1. Introduction; 3.2. Effects of Underfitting; 3.3. Effects of Overfining; 3.4. Interpreting Successive Fining; 3.5. Computing Implications for Successive Fitting; 3.6. Introduction of One Additional Regressor; 3.7. Comparing Models: Comparison Criteria; 3.8. Diagnostic Plots for the Effects of Variables; 3.8.1. Added Variable (Partial Regression) Plots; 3.8.2. Residual Versus Predictor Plots; 3.8.3.

Component-Plus-Residual (Partial Residual) Plots; 3.8.4. Augmented Partial Residual Plots
3.9. Effects of an Additional Regressor4. EFFECTS OF AN OBSERVATION ON A REGRESSION EQUATION; 4.1. Introduction; 4.2. Omission Approach; 4.2.1. Measures Based on Residuals; 4.2.1.1. Testing for a Single Outlier; 4.2.1.2. Graphical Methods; 4.2.2. Outliers, High-leverage, and Influential Points; 4.2.3. Measures Based on Remoteness of Points in X-Y Space; 4.2.3.1. Diagonal Elements of P; 4.2.3.2. Mahalanobis Distance; 4.2.3.3. Weighted Squared Standardized Distance; 4.2.3.4. Diagonal Elements of Pz; 4.2.4. Influence Curve; 4.2.4.1. Definition of the Influence Curve
4.2.4.2. Influence Curves for and 24.2.4.3. Approximating the Influence Curve; 4.2.5. Measures Based on the Influence Curve; 4.2.5.1. Cook's Distance; 4.2.5.2. Welsch-Kuh's Distance; 4.2.5.3. Welsch's Distance; 4.2.5.4. Modified Cooks Distance; 4.2.6. Measures Based on the Volume of Confidence Ellipsoids; 4.2.6.1. Andrews-Pregibon Statistic; 4.2.6.2. Variance Ratio; 4.2.6.3. Cook-Weisberg Statistic; 4.2.7. Measures Based on the Likelihood Function; 4.2.8. Measures Based on a Subset of the Regression Coefficients; 4.2.8.1. Influence on a Single Regression Coefficient
4.2.8.2. Ilnfluence on Linear Functions of 4.2.9. Measures based on the Eigensmcture of X; 4.2.9.1. Condition Number and Collinearity Indices; 4.2.9.2. Collinearity-Influential Points; 4.2.9.3. Effects of an Observation on the Condition Number; 4.2.9.4. Diagnosing Collinearhy-Influential Observations; 4.3. Differentiation Approach; 4.4. Summary and Concluding Remarks; 5. ASSESSING THE EFFECTS OF MULTIPLE OBSERVATIONS; 5.1. Introduction; 5.2. Measures Based on Residuals; 5.3. Measures Based on the Influence Curve; 5.3.1. Sample lnfluence Curve; 5.3.2. Empirical Influence Curve
5.3.3. Generalized Cook's Distance

Sommario/riassunto

Treats linear regression diagnostics as a tool for application of linear regression models to real-life data. Presentation makes extensive use of examples to illustrate theory. Assesses the effect of measurement errors on the estimated coefficients, which is not accounted for in a standard least squares estimate but is important where regression coefficients are used to apportion effects due to different variables. Also assesses qualitatively and numerically the robustness of the regression fit.

2. Record Nr. UNIORUON00078031

Autore	BOURAOUI, Hedi
Titolo	La francophonie à l'estomac / Hedi Bouraoui
Pubbl/distr/stampa	[Paris], : Editions Nouvelles du Sud, c1995
ISBN	28-7931-047-4
Descrizione fisica	94 p. ; 24 cm
Disciplina	840.09
Soggetti	LETTERATURE FRANCOFONE - Studi
Lingua di pubblicazione	Francese
Formato	Materiale a stampa
Livello bibliografico	Monografia