

论文

多重线性回归中数据联合影响的分解及数据的交叉影响

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摘要 一、引言考虑多重线性回归模型 $Y=X\beta+\varepsilon$, (1)其中, $Y=(y_1, \dots, y_n)'$ 为 $n \times p$ 观察矩阵, $X=(x_1, \dots, x_n)'$ 为 $n \times (k+1)$ 列满秩设计矩阵, $\beta=(\beta_0, \beta_1, \dots, \beta_k)'$ 为 $(k+1) \times p$ 未知参数矩阵, $\varepsilon=(\varepsilon_1, \dots, \varepsilon_n)'$ 为 $n \times p$ 随机误差矩阵, $\varepsilon_1, \dots, \varepsilon_n$ 相互独立.

关键词

分类号

FACTORIZATION OF COLLECTIVE INFLUENCES OF DATA AND CROSS INFLUENCE OF DATA IN MULTIVARIATE LINEAR REGRESSION

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Abstract In this paper, we discuss the relationship between the collective influences of multiple cases and the influence of each case on regression analysis in multivariate linear regression, that is, the factorization of the collective influences of cases. We also discuss the magnitude of influence of case i on the fitted value at case j , that is, the cross influence of data; and the upper bound of the cross influence is obtained. Furthermore, we reveal the role of off-diagonal elements of the hat matrix in the factorization and the cross influence of data.

Key words

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