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Linear Programming Formulations Of Linear Regression: Review And Comparison

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Abstract:

Linear regression is one of the most studied approaches in predictive analytics. In this work, we review various curve fitting estimators for the multivariate regression problem, e.g., least absolute deviations and maximum absolute deviations. We study alternative linear programming formulations of the curve fitting estimators. We solve the linear programming problems with state-of-the-art solvers, e.g., CPLEX, GUROBI, and CLP. We compare the accuracy and efficiency of the curve fitting estimators and draw conclusions on various datasets. Finally, we report extensive computational results of the linear programming solvers on the various linear programming formulations.

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Topic (Complete): Linear Programming ; Optimization ; Deep Learning/Maching Learning

Additional Information (Complete):

Practice related?: No

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