

عنوان مقاله:

A new method of linear support vector regression with interval data

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خلاصه مقاله:

In this paper, the linear support vector regression approach is proposed for solving the regression problem with interval data, which is called interval support vector regression (ISVR). The ISVR approach is equivalent to solving a linear constrained quadratic programming problem (QPP) with an interval cost coefficient in which the value of the objective function is in an interval. Instead of solving an interval QPP, we solve two QPPs and prove that the cost values of these two problems are the lower bound and the upper bound of the target value of the interval QPP. We show these two mentioned QPPs are equivalent to two support vector regression problems which the first problem applies the lower bound of data and the second problem considers the upper bound of the data. to obtain the regression function. Some experiments are made to demonstrate the performance of our method compared with the known algorithms on several artificial, benchmark and real practical datasets.

کلمات کلیدی:

Quadratic programming, Computing methodologies and applications, Linear regression.

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