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论文

露天煤矿卡车路段行程时间的实时动态预测新方法

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摘要:

针对露天煤矿卡车优化调度中重要的行程时间预测问题,考虑影响卡车行程时间的各种因素,建立卡车行程时间预测模型,利用最小二乘支持向量回归算法(LS-SVR)和选择性集成学习思想,提出一种基于最小二乘支持向量回归的选择性集成学习算法实现卡车行程时间的动态预测。并在实际采集的露天煤矿数据上进行实验,得到较高的预测精度,说明了算法的有效性。

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关键词: 露天煤矿:卡车:行程时间:动态预测:最小二乘支持向量回归:选择性集成学习

A new method of real time dynamic forecast of truck link travel time in open mines

Abstract:

Aiming at travel time prediction problem in optimal dispatching of truck in open coal mines, a truck travel time prediction model which considered various truck travel time influencing factors was built. Using least squares support vector regression(LS-SVR) algorithm and selectivity ensemble learning concept, this paper proposed a truck travel time dynamic prediction method realized by selectivity ensemble learning algorithm based on least squares support vector regression. Experiments were done using the practical data acquired from open coal mines. Higher prediction accuracy was obtained, and the effectiveness of the proposed algorithm was proved.

Keywords: open mine; truck; travel time; real time dynamic forecast; least squares support vector regression; ensemble selection learning

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