عنوان مقاله:

Performance assessment among hybrid algorithms in tuning SVR parameters to predict pipe failure rates

نویسندگان:

Moosa Kalanaki - *Department of Computer Engineering, Rouzbahan Higher Education Institute Sari, Iran*

Jaber Soltani - *Assistant Professor, Irrigation and Drainage Engineering Department, Aboureyhan Campus,University of Tehran Tehran, Iran*

خلاصه مقاله:

Pipe failures often occur in water distribution networks and result in large water loss and social-economic damage. To reduce the water loss and maintain the conveyance capability of a pipenetwork, pipes that experienced a severe failure history are often necessary to be replaced. Several studies and methods have beenintroduced for predicting failure rates in urban water distribution network pipes by researchers, each of them has some specialfeatures regarding the effective parameters and many methods such as Classical and Intelligent methods are used, leading to some improvements. In this paper, the method incorporates hybrid support vector machine and heuristic algorithms techniques for efficient tuning of SVM meta-parameters forpredicting water distribution network. Performance results are Compared with continuous genetic algorithm-based SVR (SVRGA),continuous ant colony algorithm-based SVR (SVR-ACO), particle swarm optimization-based SVR (SVR-PSO), artificial neural networks (ANNs) and adaptive neuro-fuzzy inference systems (ANFIS).

کلمات کلیدی:

Support vector regression, Heuristic algorithms,Kernel functions, Loss functions, Pipe failure rates

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/245305