

## عنوان مقاله:

Bridge Health Monitoring Using Two Stage Neural Networks

## محل انتشار:

هشتمین کنگره ملی مهندسی عمران (سال: 1393)

تعداد صفحات اصل مقاله: 7

## نویسندگان:

Omid Rasouli - Lecturer, Department of Civil Engineering, Miyaneh Faculty of Engineering, Miyaneh, Iran

Eysa Salajegheh - Professor, Department of Civil Engineering, University of Kerman, Kerman, Iran

Seyed Sadegh Naseralavi - Assistant Professor, Department of Civil Engineering, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran

Ali Kameli - Assistant Professor, Department of Industrial Engineering, Miyaneh Faculty of Engineering, Miyaneh, Iran

## خلاصه مقاله:

In this paper a method for damage identification in bridges employing neural networks is presented. In this work, in order to increase the speed and reduce the computational error for damage detection a new two stage method is introduced. In the first stage the damages are localized using a radial basis function neural network which has the benefit of high learning speed. In the second stage, the exact location and severity of damaged elements found using a well-trained back propagation neural network which possesses high powerful learning capacity. In order to evaluate the proposed method Louisville truss bridge in United States of America is modeled by a finite element program and then changes in the responses is analyzed using MATLAB neural networks toolbox. Numerical results demonstrate the efficiency of the proposed method for correct damage identification

## کلمات کلیدی:

damage detection, neural networks, modal analysis, truss bridge

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/295856>

