

Abstract

A bridge is a construction that functions to continue the road through an obstacle that is lower. A common problem encountered in bridge construction is the occurrence of structural failure. In general, the performance of bridges can be impaired for various reasons including corrosion of reinforcement, reduced strength of concrete, fatigue cracks in steel, cracks in concrete, etc.

Once structural damage has been detected, it is necessary to determine the Damage Location. SVM (Support Vector Machine). The test results show that using SVM can show the results of the accuracy of damage from normal bridge data and damaged bridges that have been classified using SVM and it is found that sensors 1 and 2 are the biggest damage locations on the bridge according to the scenario that has been made. . Based on the test results of the SVM (Support Vector Machine) method, it can be concluded that the analysis of the location of the damage on the proposed Single Degree Of Freedom bridge structure is capable of detecting damage and analyzing the location of the damage using the SVM classification from 10 attempts to compare the accuracy of normal data and data. damaged each sensor to determine the location of the damage. Then the results of the prediction of the location of the biggest damage are found in sensors 1 and 2 in segment 1 with a 75% reduction in spring with normal data accuracy of 80%, 65% and Broken Data by 95% and 95% and affect sensors 3 and 4. looking for locations damage using a comparison between damaged and normal data from the accuracy of each data obtained using the SVM that has been generated according to the damage scenario on the bridge structure.

Keywords: SVM,Bridge,Damage Location,Classification,Detected,Accuracy
