**Article Abstract**

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| Title: | Infinite ensemble of support vector machines for prediction of musculoskeletal disorders risk |
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| Abstract: | Several modeling techniques have been used to classify the low-back disorders (LBDs) risk associated with the industrial jobs. Many researchers have demonstrated the use of artificial neural networks (ANNs) to predict musculoskeletal disorders risk associated with occupational exposures. In order to improve the accuracy of LBDs risk classification, this paper proposes to use the support vector machines (SVMs), a machine learning algorithm used extensively in the last decade. The results of SVMs based ensemble classification approach to classify the low-back disorders (LBDs) risk associated with the industrial jobs are presented. Four different kernels (i.e. the stump kernel, perceptron kernel, Laplacian kernel and exponential kernel) were used to create infinite ensemble of SVMs and their performance have been compared with the SVMs, AdaBoost SVMs, and a backpropagation neural network. The results suggest an increased performance by stump and Laplacian kernel in comparison to the radial basis function and polynomial kernel based SVMs, AdaBoost SVMs, and the back propagation neural network. Highest classification accuracy of 77.01% was achieved by Laplacian kernel based SVMs in comparison to 71.3% and 74.7% by radial basis function kernel based SVMs and back propagation neural network respectively. |
| Keywords: | Low-back disorders (LBDs), Support Vector Machines (SVMs), Ensemble learning, Back propagation neural network |