

Lung Nodule Classification Utilizing Support Vector Machines

Mousa, W.A.H. Khan, M.A.U.; Dept. of Electr. Eng., King Fahd Univ. of Pet. & Miner., Dhahran, Saudi Arabia;

Image Processing. 2002. Proceedings. 2002 International conference;Publication

Date: 2002;Vol: 3,On page(s): III-153- III-156 vol.3;ISBN: 0-7803-7622-6

King Fahd University of Petroleum & Minerals

<http://www.kfupm.edu.sa>

Summary

Lung cancer is one of the deadly and most common diseases in the world. Radiologists fail to diagnose small pulmonary nodules in as many as 30% of positive cases. Many methods have been proposed in the literature such as neural network algorithms. Recently, support vector machines (SVMs) had received increasing attention for pattern recognition. The advantage of SVM lies in better modeling the recognition process. The objective of this paper is to apply support vector machines SVMs for classification of lung nodules. The SVM classifier is trained with features extracted from 30 nodule images and 20 non-nodule images, and is tested with features out of 16 nodule/non-nodule images. The sensitivity of SVM classifier is found to be 87.5%. We intend to automate the pre-processing detection process to further enhance the overall classification.

For pre-prints please write to:abstracts@kfupm.edu.sa