Record 1 of 1

Title: Diagnosis of Airway Obstruction or Restrictive Spirometric Patterns by Multiclass Support Vector Machines

Author(s): Sahin D (Sahin, Deniz); Ubeyli ED (Ubeyli, Elif Derya); Ilbay G (Ilbay, Gul); Sahin M (Sahin, Murat); Yasar AB (Yasar, Alisan Burak)

Source: JOURNAL OF MEDICAL SYSTEMS Volume: 34 Issue: 5 Pages: 967-973 DOI: 10.1007/s10916-009-9312-7 Published: OCT 2010

Total Times Cited: 2

Abstract: This paper presents the use of multiclass support vector machines (SVMs) for diagnosis of spirometric patterns (normal, restrictive, obstructive). The SVM decisions were fused using the error correcting output codes (ECOC). The multiclass SVM with the ECOC was trained on three spirometric parameters (forced expiratory volume in 1s-FEV1, forced vital capacity-FVC and FEV1/FVC ratio). The total classification accuracy of the SVM is 97.32%. The obtained results confirmed the validity of the SVMs to help in clinical decision-making.

Accession Number: WOS:000281703200020

Language: English

Document Type: Article

Author Keywords: Spirometric patterns; Multiclass support vector machine (SVM); Classification accuracy

KeyWords Plus: OCCUPATION; STATEMENT; COPD; FEV6


Reprint Address: Ubeyli, ED (reprint author), TOBB Ekon & Teknol Univ, Fac Engn, Dept Elect & Elect Engn, TR-06530 Ankara, Turkey.

E-mail Address: sahindeniztr@yahoo.com; edubeyli@etu.edu.tr; gulilbay@yahoo.com; drmsahin72@yahoo.com; burakyasar54@hotmail.com

Publisher: SPINGER

Publisher Address: 233 SPRING ST, NEW YORK, NY 10013 USA

Web of Science Categories: Health Care Sciences & Services; Medical Informatics

Research Areas: Health Care Sciences & Services; Medical Informatics

IDS Number: 6480G

ISSN: 0148-5598

29-char Source Abbrev.: J MED SYST


Source Item Page Count: 7