

## عنوان مقاله:

MULTI CLASS BRAIN TUMOR CLASSIFICATION OF MRI IMAGES USING HYBRID STRUCTURE DESCRIPTOR  
AND FUZZY LOGIC BASED RBF KERNEL SVM

## محل انتشار:

مجله سیستم های فازی، دوره 14، شماره 3 (سال: 1396)

تعداد صفحات اصل مقاله: 14

## نویسندگان:

A. Jayachandran - Department of CSE, PSN College of Engineering and Technology, Tirunelveli, India

R. Dhanasekaran - Department of EEE, Syed Ammal Engineering College, Ramanathapuram, India

## خلاصه مقاله:

Medical Image segmentation is to partition the image into a set of regions that are visually obvious and consistent with respect to some properties such as gray level, texture or color. Brain tumor classification is an imperative and difficult task in cancer radiotherapy. The objective of this research is to examine the use of pattern classification methods for distinguishing different types of brain tumors, such as primary gliomas from metastases, and also for grading of gliomas. Manual classification results look better because it involves human intelligence but the disadvantage is that the results may differ from one person to another person and takes long time. MRI image based automatic diagnosis method is used for early diagnosis and treatment of brain tumors. In this article, fully automatic, multi class brain tumor classification approach using hybrid structure descriptor and Fuzzy logic based Pair of RBF kernel support vector machine is developed. The method was applied to a population of ۱۰۲ brain tumors histologically diagnosed as Meningioma (۱۱۵), Metastasis (۱۲۰), Gliomas grade II (۶۵) and Gliomas grade II (۷۰). Classification accuracy of proposed system in class ۱(Meningioma) type tumor is ۹۸.۶۹%, class ۲ (Metastasis) is ۹۹.۲۹%, class ۳(Gliomas grade II) is ۹۷.۸۷% and class ۴(Gliomas grade III) is ۹۸.۶.

## کلمات کلیدی:

MRI, Classification, Fuzzy support vector machine, Feature selection, Texture, tumor class, Radial Basics Function ((RBF

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1460733>

