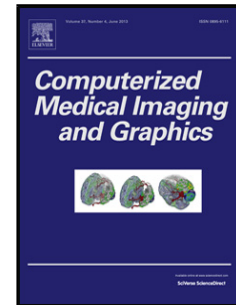


## Accepted Manuscript

Title: Feature selection for outcome prediction in oesophageal cancer using genetic algorithm and random forest classifier

Author: Desbordes Paul Ruan Su Modzelewski Romain  
Vauclin Sébastien Vera Pierre Gardin Isabelle



PII: S0895-6111(16)30132-X  
DOI: <http://dx.doi.org/doi:10.1016/j.compmedimag.2016.12.002>  
Reference: CMIG 1486

To appear in: *Computerized Medical Imaging and Graphics*

Received date: 29-4-2016  
Revised date: 10-10-2016  
Accepted date: 16-12-2016

Please cite this article as: Desbordes Paul, Ruan Su, Modzelewski Romain, Vauclin Sébastien, Vera Pierre, Gardin Isabelle, Feature selection for outcome prediction in oesophageal cancer using genetic algorithm and random forest classifier, *Computerized Medical Imaging and Graphics* (2016), <http://dx.doi.org/10.1016/j.compmedimag.2016.12.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Highlights :

- We propose a new feature selection strategy in two steps called GARF (Genetic Algorithm based on Random Forest) to select the most relevant subset of features from a large amount of characteristics extracted from positron emission tomography images and clinical data.
- A genetic algorithm is used to perform this selection according to a new multiparametric fitness function depending on a random forest misclassification rate, areas under receiver operating characteristic curves and a sparsity constraint.
- Experimental results show that excellent performances are obtained by our feature selection strategy compared to those obtained by 3 other methods.

Accepted Manuscript

Download English Version:

<https://daneshyari.com/en/article/4964674>

Download Persian Version:

<https://daneshyari.com/article/4964674>

[Daneshyari.com](https://daneshyari.com)