A memetic algorithm for gene selection and molecular classification of cancer

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Mots-clés	classification [4], gene selection [5], Local search [6], memetic algorithm [7], specialized crossover [8]
Résumé en anglais	Choosing a small subset of genes that enables a good classification of diseases on the basis of microarray data is a difficult optimization problem. This paper presents a memetic algorithm, called MAGS, to deal with gene selection for supervised classification of microarray data. MAGS is based on an embedded approach for attribute selection where a classifier tightly interacts with the selection process. The strength of MAGS relies on the synergy created by combining a problem specific crossover operator and a dedicated local search procedure, both being guided by relevant information from a SVM classifier. Computational experiments on 8 well-known microarray datasets show that our memetic algorithm is very competitive compared with some recently published studies.
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[3] http://okina.univ-angers.fr/publications?f[author]=7569
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