



International Journal on Recent Researches In Science, Engineering & Technology

A Journal Established in early 2000 as National journal and upgraded to International journal in 2013 and is in existence for the last 10 years. It is run by Retired Professors from NIT, Trichy.

It is an absolutely free (No processing charges, No publishing charges etc) Journal Indexed in DIIF and SJIF.

Research Paper

Available online at: www.jrrset.com

Chief Editors 1 : Dr. M.Narayana Rao, Ph.D., Rtd. Professor, NIT, Trichy.

(Engg.&Technology division)

2 : Dr. N.Sandyarani, Ph.D., Professor,

Chennai based Engg.College, (Science division)

ISSN (Print) : 2347-6729

ISSN (Online) : 2348-3105

Volume 2, Issue 7,

July 2014

DIIF IF :1.46

SJIF IF: 1.329

Simulated Annealing Based Clustering

A.Kumar and S. Dhiraj

Abstract - Literature review revealed that data Mining , clustering techniques has become an important topic in effective analysis of gene expression data due to its wide application in the biomedical industry . In this paper we propose an efficient and automatic simulated Annealing based clustering approach that is suitable for gene expression analysis . The purpose approach primarily employs similarity- matrix based clustering techniques. In particular a novel validation technique is incorporated for evaluating the quality of the discovered gene expression patterns . We have implemented proposed algorithm and tested their performance using real biological data of cancer of [118 x 60] samples and breast cancer data of [700x9] samples. The results of proposed algorithm were compared with the well - known k-means algorithm with very comparable results. This approach to gene expression analysis that integrates simulated-annealing, clustering and validation techniques simultaneously results in automated, high quality and highly efficient algorithm .