



SDI Review Form 1.6

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2014_BJMCS_11194
Title of the Manuscript:	AN ALTERNATIVE ARTIFICIAL INTELLIGENCE TECHNIQUE FOR DETECTING OUTLIERS
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	This paper proposes an outlier detection method by combining KNN and SVM. The procedure of the proposed KSVM and simulation results for MILK data are given. However, the reviewer feels that both organization and presentation of this paper are not good enough to be accepted. Following are some concerns: (i) The authors are strongly suggested to include and discuss some newly published papers that address the problem of outlier detection, especially those using artificial intelligence method, to enhance the motivation (the only cited paper is [12], which published in 2009!). (ii) The reasonability of "global efficiency" should be discussed, some more insight is necessary. (iii) The logic of expression and explanation of this paper, especially in Section 2, needs reconsidered. (iv) The terms are not consistent, e.g. the proposed KSVM is denoted by SVM-KNN several times. Another example is "k nearest neighbors", "KNN", "K nearest neighbor", and "K nearest neighbors". (v) L210 pp. 8, why not using Mahalanobis distance (in stead of Euclidean distance) should be discussed with more details. As previously stated that "Mahalanobis distance works well identifying scattered outliers". If there was no prior that the outliers are scattered or clustered ones, why should we use Euclidean distance? (vi) The simulation results only show that KSVM has	• The new published papers added to the references. • The definition of global efficiency was added in line 64. • The author made all justifications about term KSVM. • The author added new section called 5.3 discussion and conclusion which declare the advantage of the KSVM technique.



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	the same global efficiency as SVM (RBF). The problem is why one should choose KSVM to obtain the same efficiency as SVM while more parameters should be determined and much more cost is required. (vii) The authors declare that KSVM “may be more suitable for other data...”. It is necessary to demonstrate by either simulation result or theoretical proof. Or the motivation of this whole paper is inconvincible. (viii) How to determine the optimal parameters of KSVM should be discussed, techniques such as cross-validation are necessary.	
<u>Minor</u> REVISION comments	English usage is far from good, to name a few, “whether the problem is data entry errors or rare events.”, “...algorithm including K Nearest Neighbor and Support...”, “Also a global efficiency measure introduced to ...”, “the problem of the existence of outliers... problem... has been...”, “An outlier is an observation which appear to be...”, “So, KSVM used to detect outliers”, “Let us...”, “it is said that...” should be avoided. The reviewer would suggest the authors to let a native English speaker read the paper. “intelligent techniques for outlier detection” is not a Key words candidate. L72 pp. 3, the formula is not clear enough.	• The author justified the English problems. • The author justified the key words. • The author writes the formula clearly
<u>Optional/General</u> comments		