



SDI Review Form 1.6

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2014_BJMCS_14611
Title of the Manuscript:	A Neuronal Classification System for Plant Leaves using Genetic Image Segmentation
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	1. "Related works" section cannot be constructed as shown in the paper. Every paper that discusses the investigated problem should be briefly analysed, then some conclusions should be presented about current state-of-the-art. The objective of this section is to investigate possible limitations of existing approaches and present own contribution to the problem solution. 2. CNN used in this approach expresses the same behaviour as Laplace filter (see eq. 5.4 and 5.7). However, classification results are not provided for this filter. Other approaches give very similar error rate when compared to CNN (differences < 1.5%). This suggests that selection of segmentation method is not a crucial point of the whole algorithm. 3. Usually, appropriate selection and then reduction of feature set mostly influences the classification accuracy. This issue was not discussed in the paper. 20 Zernike moments based features along with Fourier descriptors were used without any reduction/extraction procedure aimed at optimization of the feature set in terms of classification error minimization. Feature reduction is very important, see e.g. ArunPriya C. et.al. An Efficient Leaf Recognition Algorithm for Plant Classification Using Support Vector Machine, Proceedings of the International Conference on Pattern Recognition, Informatics and Medical Engineering, March 21-23, 2012. There, PCA was applied for this purpose. The classification accuracy obtained for 5	



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	features only and Laplacian filtering used for image segmentation was higher than reported in this work. 4. The purpose of application of GA is not clear. What was optimized, the CNN template? How this influenced the image segmentation and final classification result?	
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		

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