



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.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



SDI Review Form 1.6

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-why equation 5.1 is used based on what reference? 2-Image segmentation as defined in 5.3 section is wrong it should be the division of an image into disjoint regions such that the intersection of R_i and R_j is null and the union of all regions is the image itself. 3- There is a need to describe the structure of the chromosome, what are the constraints and what is the objective? how it converges after reaching the max number of generation or there is another condition? The process of GA is not clear and not convincing 4- In section 5.3 What is I and O? what does the authors mean with I and O are evaluated and input image pixels respectively? This should be clearer 5-The equation 5.3 cannot be a general representation for a relationship between an image and its segmented part except in defined case such as the work listed in the paragraph. 6- It is not clear what the relationship is between equation 5.3 and 5.2. If 5.2 is used to create the population of GA how this is done Figure 8 does not explain the input of GA and how the chromosome is created	(1) Equation 5.1 is now referenced and explained (2) Image segmentation definition has been re-defined. (3) This is has been briefly listed in the GA configuration table and reference to the paper by the author and other authors, on GA has been made for space management. (4) The O and I are clearly explained in the paper. Perhaps, the reviewers skipped the section mistakenly. (5) This equation is general segmentation BUT segmentation based on CNN. (6) This is has been briefly listed in the GA configuration table and reference to the paper by the author and other authors, on GA has been made for space management (7) The GA really converged as shown the



SDI Review Form 1.6

	7-it is not clear how the GA-CNN converges in the flowchart of Figure 2 and Figure 8. How is best Chromosome selected based on what criteria? How GA converges to the global optimum solution after 101 generation or the solution n=does not change after n cycle? Not clear 8- What features are extracted? section 5.4 is not clear why 20 features are extracted and what they describe (color, texture, edge...etc) The authors indicate in section 5.4 that 20 features are extracted from Flavia datasets. Should it be the dataset or each image? 9- The results of the experiments does not prove the efficiency of the new method for the following reasons: the new method combine several processes in order and it is known that GA alone is very slow and needs time more than any other process. So I am sure the new process needs more time and there is no significant difference between Sobel and the new method	Figure and termination message given after running the code. The output of the CNN-GA edge templates are given in Equations 5.5 (8) Zernike moments and Fourier descriptors (9) The aim in this work is to use GA to optimize CNN and use with RBF in precision agriculture.
--	---	---



SDI Review Form 1.6

<u>Minor</u> REVISION comments	1- Authors should investigate more references	
<u>Optional/General</u> comments	1- The authors are urged to check other techniques which can help improving their research such as the combination of ANN, Mathematical morphological operators and edge detection techniques or th combination of ANN and GA in order to minimize over-segmentation	Done