



SDI Review Form 1.6

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2013_BJAST_7158
Title of the Manuscript:	Neural Network based Image Compression approach to improve the quality of Biomedical Image for Telemedicine
Type of the Article	Original Research Paper

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	- The authors should discuss in more detail the pros and cons that the proposed scheme has when compared against JPEG2000 and other widely used schemes of this kind. - The authors should justify the fluctuations of the compression ratio in Figure 7.	- As JPEG, JPEG2000 are the standard compression methods, the proposed approach compared its results with JPEG2000. The pros of the proposed approach when compared with JPEG2000 as seen by the plotted graph has high compression ratios and the cons against the proposed approach is the computation time as ANN requires the training time which is almost equal or some times higher than the time taken for JPEG2000. The computation time plot is not shown in the paper. In future work we will compare the observed results with other widely used compression schemes which are used in medical imaging. - For justification, the observed values of compression ratio for 5 biomedical image samples are plotted and compared between proposed approach and JPEG2000. Line 351-354.
Minor REVISION comments	- In line 148 the authors instead of "the image is coded with respect to their pixel values" should write "the image is coded with respect to its pixel values". - In line 217 the authors instead of "Due to which" should write "Due to this conversion". - The sentence in lines 219 and 220 needs to be	- Agreed and changed - Agreed and changed - Done



SDI Review Form 1.6

	correctly rephrased. • The statements presented in lines 225 to 235 should be clarified. • In line 251 the authors instead of “and perform” should write “and performs”. • In line 251 the authors instead of” Observation of compression ratio for the observing two methods for sample Q1” should write “Comparison of compression ratio when the two methods are applied”. • The authors could add in Section 1 (Introduction) that “there are applications, like Wireless Sensor Networks (WSNs), where image compression is absolutely necessitated because it reduces the volume of the transmitted multimedia data and thus the communication load and achieves considerable energy savings. For this reason, several schemes have been developed in order to perform image compression [1-3] or even both image compression and restoration [4].” [1] Q. Lu, W. Luo, J. Wang, B. Chen, “Low-complexity and energy efficient image compression scheme for wireless sensor networks”, Computer Networks, Volume 52 Issue 13, pp. 2594-2603, (2008). [2] George Nikolakopoulos, Dionisis Kandris, Anthony Tzes, “Adaptive Compression of Slowly Varying Images Transmitted over Wireless Sensor Networks”, pp.7170-7191, Sensors, Volume 10, 2010. [3] Li Wern Chew, Ang Li-Minn, Kah Phooi Seng, "Survey of image compression algorithms in wireless sensor networks," International Symposium on Information Technology, (ITSim) 2008., vol.4, pp.1-9, 26-28 Aug. 2008. [4] G. Nikolakopoulos, P. Stavrou, D. Tsitsipis, D. Kandris,	• Explained • Agreed and changed • Agreed and changed • No doubt, in the introduction section we discussed the problem of transmitting the biomedical images on wireless networks but our main intention was to implement the project on wired networks, so we dint refer the literature for transmitting the biomedical images on Wireless Sensor Networks (WSNs). We can take this into consideration in our future work and publications.
--	---	---



SDI Review Form 1.6

	A. Tzes, T. Theoharis, "A dual scheme for compression and restoration of sequentially transmitted images over Wireless Sensor Networks", pp. 410-426, Ad Hoc Networks, Volume 11, Issue 1, 2013.	
<u>Optional/General</u> comments	• The authors are advised to have a thorough language editing by a native English language speaker • The authors are advised to put original processing sample Q1 (which is currently shown in Figure 5) by side of the two coded images (which are currently shown in Figure 6) within the same Figure, so as to make the comparison of the three images more evident.	• Done • The processing samples are original collected from King Fahad Medical City (General Hospital), Riyadh, Saudi Arabia. Done