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Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	Ms_BJMCS_27558
Title of the Manuscript:	DEVELOPMENT OF AN AUTOMATED DESCRIPTIVE TEXT-BASED SCORING SYSTEM
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	The authors of this paper present an approach for the development of an automated descriptive text-based scoring system. The domain knowledge considered is in the field of science and technology. The main goal of the authors is to present a tool that allow the users to automatize the task of marking written text (like professors when mark the assessment exams). The idea is interesting and it is naturally useful, the authors present a justified set of reasons for their work. However, the throughout the text, the authors do not resent properly and in a complete way the work proposed. The ideas presented are so superficial that is quite difficult to understand how the various stages of the development work, how they were achieved, or even how they are connected to each other. To improve the paper and facilitate the understanding of the work developed, the authors must present a flowchart showing the important steps of the system or simply the architecture. Each component must be properly explained and in a complete way, showing the algorithms, the information representation, implemented and how they are connected to each other. The authors must also present an illustrative example to clarify the several stets performed by the system. Unfortunately the text presented in the paper is not correctly written, a lack of determinants in sentences, several errors of tense verb, i.e., a lot of grammatical errors we detected. The authors must carefully review all the paper in order to remove all the language incongruences and write it in proper English. Another important aspect is about the result and performance evaluation, the authors only limited themselves to present a set of figures and tables and never explained them correctly and completely in a formal way, i.e., no discussion about the subject is presented. Last but not least, the most part of the bibliography presented is quite old, the authors should properly update the bibliographic references. At this moment, the paper needs a thorough rewritten to be improved and get ready for	Special thanks to the reviewer. We will like to know that the paper is quite clear and explicit enough for any researcher to comprehend the technicality. Nevertheless, the team will include the system flowchart and architecture to further simplify the research paper. More so, each component of the proposed model were well explained and documented. Kindly note that not all activities entailed in the research work can be documented in this papers otherwise the paper will be extremely too long (several pages) for any reader.



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	publication. The authors must take into account the following considerations about the content of the paper. Keywords: the authors must present a set of keywords that are related and presented in the current work 1. INTRODUCTION The set of proof bibliography presented is quite old. For instance, how the authors may say that “Most currently accepted...” taking into account a paper dated from 1999? Or affirm that “Recent thinking in the field of educational assessment...” based on a paper from 2001? The sentence “The accuracy and reliability of these systems have been proven to be high.” needs bibliographic proof. The sentence “The search for excellence in machine scoring of essays is continuing and numerous studies are being conducted to improve the effectiveness of the AES systems.” also needs a properly bibliographic proof. The authors may improve the introduction to the subject, the content and the presentation of the organization of the paper is necessary. The introduction serves to contextualize the importance of the work presented, both on the reasons for its development as what has been accomplished with its development. 2. LITERATURE REVIEWS In sentence “...multiple choice, constructed response, extended constructed response, technology enhanced, and performance task...” each topic needs bibliographic references. The terms “automated natural language” and “natural language processing” needs bibliographic references. The paragraphs that start with the number of the bibliographic reference needs to be rewritten. This is not the formal way of writing scientific papers. Some of the sentences presented in this section are too long, and hard to understand and of course the text is not written in a formal and correct English language. For instance, in sentence “Essay Scoring System in College English Writing Course was developed by [17].”, probably the authors meant to say “Essay Scoring System in College English Writing Course is presented in [17].”? And in sentence “developed and tried to optimize the design of classroom teaching...”, probably should be “The authors developed and tried to optimize the design of classroom teaching...”? The authors should review all the paper text! 3. OUR APPROACH This section is very poorly written, there are so many grammatical errors that	The research team will do a proper review of the text presented in the paper and amend all found grammatical errors. We strongly disagree with the opinion of the reviewer that the result and performance evaluation were never explained. Please do see page 10 headings 4 and page 11 heading 5 for explanations. The aspect of the bibliography references will be updated accordingly. The essence of the old reference is to enable us establish some background facts about the domain of study which we belief it's quite necessary. Lastly, the keywords presented are related to the current work. Introduction: The errors are noted and the corresponding corrections will be effected.
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	“respnse” should be “response” “knowledge based” should be “knowledge base” “Trimming is done by identifying sentences and removing unnecessary punctuations and empty spaces from the sentences” how is this performed by the system? What are unnecessary punctuations and empty spaces? why are they removed? And what is the output of this step and what for? “Response trimmer depend on Response...” should be “Response trimmer depends on Response...” iv. Response Classifier “The response classifier...”, the authors must review all the concepts names and uniformly presented all with the first letter in upper case... “Therefore Response Classifier is an important tools for Marker...” should be “Therefore Response Classifier is an important tool for Marker...” The authors must properly explain why they considered the mentioned classes for responses classification, clarifying how they are performed by the system, the rules used, the inputs and outputs and the information representation... “Equations 3.7 and 3.8 are applicable here.” Should be “Equations 7 and 8 are applicable here.” C. SCORING ENGINE “This part of ATS-System model...” rewrite in a more formal text “ATS-System” refers to “ADTSS”? The names of six components should be presented in a formal way and not as implemented. Throughout the subsection “marker class” the authors present several scores. The authors must properly explain how they were chosen. ii. Multivariate Bernoulli model The concept Multivariate Bernoulli model needs bibliography references. The authors must properly and in a complete way explain the model, where and how is used. In equation 9, the index j were not explained. 4. RESULT AND DISCUSSION There are no discussion presented about the results. The authors must present a complete discussion about the results obtained and presented in Table 1, and Figures 1 and 2 (these are never mentioned). 5. PERFORMANCE EVALUATION The subsection “Mean Divergence” needs bibliography references.	Please do check the next sentence for explanation about pattern machine The ‘and “are valid punctuations because there used frequently in text. Also, the punctuations listed in the paper are explicit enough for any English reader to identify and does not require any further clarification.
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	What is “at +- value.?” Again the letter n in another context “for n students...” Figure 3 does not show the exact values for mean divergence. How these values are calculated? How the mean divergence is calculated? How are accuracy and average calculated? What are the general formulas to obtain those values? The values obtained should be properly explained and, the authors should also clarify how the accuracy of the system was obtained. ii Pearson Divergence This subsection needs bibliography references. “...the existing AES systems” What systems? “Estimating the Pearson correlation coefficient r between the manual scores’ X and the proposed system score Y, using the obtained values from Table 2 obtained.” What means this sentence? The equation 13 should be properly explained and maybe present an example to illustrate what was made in this step... (and for all steps...) The authors must present a complete discussion about the Table 2 and about what may conclude. 6. CONCLUSION AND FUTURE WORK The sentences in this section must be presented as conclusion statements about the work made, and not as an introduction of subjects. For instance, the first paragraph and part of the second paragraph are introduction of subjects. “It was observed that the automated system achieved 77.5% accuracy with lesser time and energy consumption.” Where did this conclusion come from? The authors should present a properly and adequate conclusion of their work. The authors must also clarify the points of the future work. “REFERNCES” should be “REFERENCES” The reference items 1, 4 and 5 are not complete...	We consider this limit “ greater than 3” base on a brute-force method used and we clearly stated that it is a proposal. The trimming process is clearly explained and the punctuation had been identifier in the previous paragraphs in the paper. Result and Discussion: The necessary discussion had been done in the paragraph before the table and figures referred to. We belief the explanation made are explicit enough for any researcher to understand. Performance Evaluation: “What is “at +- value.?” In simple mathematics,
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		this denotes either addition or subtraction operations. Figure 3 does shows the exact values for the mean divergence. Please do refer to equation 11, 12 and table 1 Table 2 will be adjusted. Equation 13 is explicit enough for any researcher with little mathematics background to understand capturing data from adjusted table 2
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		