



SDI Review Form 1.6

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	MS: 2012/BJAST/2280
Title of the Manuscript:	Fuzzy Sequential forward search for Oil Formation Volume Factor Predictive Tool Factor for Niger Delta Crude Oil.

General guideline for Peer Review process is available in this link:

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

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



SDI Review Form 1.6

PART 2: 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)
<u>Compulsory</u> REVISION comments	Line 22 & 37 estimation of reserves and reserve forecasting seems to be repetition. They are referring to the same thing. Pls correct. Line 40, there should be comma (,) after (FVF) Line 53, "to" is missing between developed and predict. Pls correct it. Line 59, instead of "This principles" it should be "ANN ".....has been....." Line 70-74: These lines should be re-written to make more sense and correctness. The authors mentioned "two limitations of ANN.." and then concluded that "fuzzy logic solve these limitation but that is arguable. Is ANN having only two limitations? No! Also, fuzzy logic cannot be said to have solve the problem of high computational load, rather fuzzy logic is known to incur high computational loads. So please the authors should re-write these statement for indicate the correct intended meanings. It is true that fuzzy logic avoided too many adjustable parameters, but it also has another way it incurred even more computational loads, like during fuzzification and defuzzification. Therefore, this section should be re-written to present correct justification for fuzzy logic used in	



SDI Review Form 1.6

	the paper. As a hint: The author should note that fuzzy logic has been noted for its ability to handle uncertainty in data. Line 83-84: "The authors wrote "the model will be tested and validated using existing correlations used in the region"..., But I suggest it should be "the model will be compared with existing correlations used in the region" This is more appropriate as a way to show the improvement provided by the proposed system. Line 90: "parameters" should be replaced with "data" Line 97: The section 3 titled should be changed to "Feature Selection for the Model" because that is what the section described. There is nothing called "data formulation for the model" in the field of machine learning Line 115-127 and table 2: The reason and methodology for the selecting each grouping seems unclear. Please, provide further explanation. Also, always put A, B, .., C in bracket whenever you mention any input grouping, to make it easy to follow. Please change the title of the table 2 to reflect the content of the table e.g. RMSE.....	
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SDI Review Form 1.6

	In the table, you mentioned checking as title of the 3rd column! I believe you mean “testing result”. Please adjust appropriately. Result from checking should be used in selecting the best feature groupings. Is that what has been used? Here in column 3, there is no RMSE that is less than 0.1 as claimed. So please clarify and justify appropriately. Line 137: ANFI written instead of correct form “ANFIS” Line 140: Please change the title of the figure to “adaptive network of fuzzy logic inference system” Line 142: Change the title of section 3.2 to “Data Partitioning and Implementation Process Line 148: ...also (it) is well [it is missing], ...well suited to (than) ANFIS..... [“than” should replace “to”. Lines 27 & 152 contradicted each other regarding the number of data partitions used for training. It stated 570 in abstract but stated 750 in line 152. Please rectify and provide the correct values. Read Entire papers for many typo errors leading to syntax and grammatical errors, like line 166 “traing”, line 188 “...determination (of) FVF, ...	
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SDI Review Form 1.6

	Line 181: There is nothing like “fuzzifurised stage”, rather it should be “fuzzification stage” . Line 199: please mention the exact error from ANFIS for easy comparison and for clarity of the claims. Line 214: Table 3: please double check R for ANFIS as the training result is lower than testing result, as opposed the the norm. Can you offer and explanation as to why this is possible? In the correlations used, did the authors use the whole data or part of it? Line 223: omission renders the variable incomprehensible “....below (bubble) point oil formation volume factor..” Line 229: four values were listed without mentioning which methods each belongs to respectively. Serious error: Line 233: it is erroneously mentioned here that “ bubble point viscosity.....”. Is the authors predicting viscosity? Pls read the entire paper and make corrections to such mistaken terms introduce either due to slip of the hand or due to possibly copied portions from earlier works.	
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SDI Review Form 1.6

	Line 227: conclusion number2: The authors only mentioned one statistical error instead of the four different types provided in table 3. Please, it will be nice to provide adequate and convincing objective conclusions. References: Format of reference should be looked into to make it better. Add more recent papers. There is presently only one 2011 papers and we are already ending 2012. Several papers must have been published . please check them out. As hint, you may see the following. Other recent papers also abounds in literature: Sunday Olusanya Olatunji, Ali Selamat, Abdul Azeez Abdul Raheem (2012), "A hybrid model through the fusion of type-2 fuzzy logic systems and extreme learning machines for modeling permeability prediction, Informat. Fussion (2012) http://dx.doi.org/10.1016/j.inffus.2012.06.001 Olatunji, S. O., A. Selamat, et al. (2011). "Modeling the correlations of crude oil properties based on sensitivity based linear learning method." <u>Engineering Applications of Artificial Intelligence</u> 24(4): 686-696. Olatunji, S. O., A. Selamat, et al. (2011). <u>An hybrid model through the fusion of sensitivity</u>	
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SDI Review Form 1.6

	based linear learning method and type-2 fuzzy logic systems for modeling PVT properties of crude oil systems. Software Engineering (MySEC), 2011 5th Malaysian Conference in. Olatunji, S. O., A. Selamat, et al. (2011). "Predicting correlations properties of crude oil systems using type-2 fuzzy logic systems." <u>Expert Systems with Applications</u> 38(9): 10911-10922. Line 227: Finally, I suggest that the entire paper be re-read for syntax , grammatical, and omission error corrections.	
<u>Minor</u> REVISION comments	Line 227:	
<u>Optional/General</u> comments	The paper is a good attempt at predicting one of the PVT properties. It should be accepted after making the above suggested corrections.	

Reviewer Details:

Name:	Sunday Olusanya Olatunji
Department, University & Country	Computer Science Department, Adekunle Ajasin University, Ondo State, Nigeria (Presently on Leave in Universiti Teknologi Malaysia)