



SDI Review Form 1.6

Journal Name:	Journal of Advances in Mathematics and Computer Science
Manuscript Number:	Ms_JAMCS_50647
Title of the Manuscript:	A Comparative Analysis of Selected Fisher Linear Discriminant Based Algorithms in Human Faces
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:

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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	<p>The author says that 240 facial images plus one hundred images were used. The images are from the same person? Or there were 240 different people? This means different datasets that are really important to take any conclusion about LDA processing. Without this information it is impossible to discuss further.</p> <p>A typical classification system is made of signal pre-processing, feature extraction, dimension reduction, classification and classification analysis. This study compares different types of LDA. LDA is an algorithm for dimension reduction and is mentioned many times in the text that it is used to extract features and is also used for classification. In my point of view this is wrong. Lines: 135-138, 167, figure 1, figure 2, 441, 456 and in conclusion.</p> <p>Equations are unreadable: Lines: 182, 226, 228, 232, 235, 246, 461, etc. check all equations.</p> <p>Feature extraction is explained little in lines 435-437. Which features were collected?</p> <p>Classification is not well described at 3.3, line 456. Which are the test and reference vectors? How the distance, and which distance is measured? This is the classifier and not the LDA. LDA prepares the multidimensional matrix of features and reduce its dimension to be used for classification. How many dimensions has the final matrix? LDA needs to know the number of datasets being used to generate the new projection. This regards to my first question of how many classes were used.</p>	<p>340 images from 85 individuals Four (4) facial expression images (i.e. surprise, anger, sadness, fear) each from eighty-five (85) individuals 240 images out of the 340 images acquired were used for training while the remaining 100 images were used for testing. 70.6% for training 29.4% for testing.</p> <p>Feature dimensionality reduction can either be feature extraction or feature selection. The LDA techniques were majorly used for feature extraction in this study. In some work LDA technique can be used for classification but in this study; we focused on feature extraction. Euclidian distance was used for classification in all cases.</p> <p>Lines: 135-138 explains the fact that dimensionality reduction can either be feature extraction or feature selection. Line 167, 441, 456 have been corrected.</p> <p>The equations are now readable.</p> <p>Line 435-437: Facials features most especially the variable part of the face such as the eyebrows, the eyelids, the nose, the cheeks and the lips will be extracted</p> <p>The classification issues were resolved</p>
Minor REVISION comments	<p>Lines 145-147: The meaning of the "curse of dimensionality" is wrong. Check what richard bellman wrote about this sentence in 1961.</p> <p>Lines 155-161: Here are two different concepts in the same paragraph that are not related</p>	<p>The meaning of the "curse of dimensionality has been corrected!</p> <p>It looks as if they are contradictory but that is the fact. When the dimension is</p>



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	<p>to each other.</p> <p>3.2 items b and c are not the same?</p> <p>The author measures the training time for the LDA under Matlab. Is this really important once the training phase occurs just once? What is important is the weight matrix generated by LDA to reduce the dimension. A good measure of performance would be, using the same input datasets, to compare the distances among datasets after lda processing. Obviously, compare classifier performance is also a measure, but the paper propose to measure differences among dimension reduction algorithms.</p> <p>Line 720-722: the phrase is ambiguous. There are two different opinions about the same affirmation.</p>	<p>high it can affect the accuracy as well as the computational speed. Also, when the dimension is very low due to reduced feature it can as well affect the performance even when the computational speed is maintained!</p> <p>Items c is part of b: It has been corrected!</p> <p>From the work, there were variations in the training time of each LDA techniques. The weight matrix generated by LDA to reduce the dimension is necessary to know the effect of the dimensions on each of LDA techniques. All these techniques were subjected to the same condition. The images were downsized form the original 1200 x 1200 to 200x200, 150x150, 100x100 and 50x50. All these was to test the effect of the features in the training set.</p> <p>Yes! The outcome of a research sometimes will be in line with other researchers and sometimes will be contradictory! This is sometimes as a result to different method and condition under which the experiment was conducted!</p>
Optional/General comments	<p>The author proposes to explain about a comparative Analysis of selected fisher linear discriminant-based algorithms in Human Faces. The paper is well written with some minor grammar mistakes. The author introduces very well the topic and do a valuable bibliography review.</p> <p>Please review double words like “using by using” and so on.</p>	Thanks

PART 2:

	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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	