

Review Form 3

Journal Name:	Asian Journal of Research in Computer Science
Manuscript Number:	Ms_AJRCOS_130435
Title of the Manuscript:	Detecting Diabetic Retinopathy Using Machine Learning Algorithms: A Review
Type of the Article	Review Article

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	The manuscript provides a comprehensive review of machine learning approaches for diabetic retinopathy detection. It discusses the disease, key retinopathy datasets and machine learning algorithms in depth. The authors also discussed the key metrics used in the field and highlighted how previous studies have contributed to better diagnostic models.	Thank you for recognizing the comprehensiveness of our review and for your positive feedback on the manuscript's content. We aimed to provide an in-depth discussion of diabetic retinopathy detection using machine learning algorithms.
Is the title of the article suitable? (If not please suggest an alternative title)	The title of the article is suitable as it clearly reflects the focus of the manuscript on diabetic retinopathy detection using machine learning techniques.	Thank you for your positive remark regarding the title of the manuscript.
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is largely comprehensive but it could benefit from explicitly mentioning the key machine learning techniques and offering a more pointed glimpse into existing challenges in the field of diabetic retinopathy detection.	Thank you for the insightful suggestion. We have revised the abstract to explicitly include key machine learning techniques, such as convolutional neural networks (CNNs), support vector machines (SVMs), and k-nearest neighbors (KNN), which are frequently used in diabetic retinopathy detection. Additionally, we have incorporated a brief mention of existing challenges in the field, such as dataset variability, computational resource requirements, and generalizability across populations. The revised abstract is highlighted in the manuscript for your review.
Is the manuscript scientifically, correct? Please write here.	Yes, the manuscript is scientifically correct.	Thanks Reviewer
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references included in the manuscript are relevant but adding the following recent studies would enhance its comprehensiveness: <ul style="list-style-type: none"> a. Bilal, A., Liu, X., Shafiq, M., Ahmed, Z., & Long, H. (2024). NIMEQ-SACNet: A novel self-attention precision medicine model for vision-threatening diabetic retinopathy using image data. <i>Computers in Biology and Medicine</i>, 171, 108099. b. Jabbar, A., Liaqat, H. B., Akram, A., Sana, M. U., Azpíroz, I. D., Diez, I. D. L. T., & Ashraf, I. (2024). A Lesion-Based Diabetic Retinopathy Detection Through Hybrid Deep Learning Model. <i>IEEE Access</i>. c. Jin, Y., Gui, F., Chen, M., Chen, X., Li, H., & Zhang, J. (2024). Deep learning-driven automated quality assessment of ultra-widfield optical coherence tomography angiography images for diabetic retinopathy. <i>The Visual Computer</i>, 1-11. 	We appreciate the suggestion. The recommended references have been added to the manuscript. These additions are highlighted in the references section.
Is the language/English quality of the article suitable for scholarly communications?	The language of the article is overall suitable for scholarly communication and is technically accurate. However, the abstract could be improved to enhance its readability and the flow of ideas. Moreover, revising the entire manuscript for clarity and language refinement is recommended.	The entire manuscript has been carefully reviewed and revised for improved readability, scholarly tone, and linguistic precision. Minor redundancies were removed, and sentences were restructured for better clarity and coherence.
<u>Optional/General comments</u>	<ol style="list-style-type: none"> 1. The Introduction can be improved by adding clinical importance of early diabetic retinopathy detection. Authors should highlight the consequences of delayed diagnosis and the current techniques clinicians use for early detection such as fundus photography, optical coherence tomography (OCT) or others. 2. Authors should add a few lines on the description of the mentioned symptoms of diabetic retinopathy in the manuscript. This will help the readers understand them better. 3. The manuscript discusses machine learning techniques for DR detection but lacks details on the benefits or application of ML in healthcare and how these techniques assist with DR grading. 4. There are minor spelling mistakes, such as '<u>simi</u> supervised learning'. I recommend authors to proofread the manuscript for such errors. 	Thank you for your valuable and detailed suggestions. We have addressed most of these comments and highlighted them in the manuscript.

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	<ol style="list-style-type: none">5. Incorporating a discussion on pre-processing and augmentation techniques to highlight how these methods were applied to enhance dataset quality by previous studies would greatly improve the depth of the review.6. The authors have mentioned valuable key metrics for DR detection. It would be helpful to further elaborate on performance metrics such as Kappa score, misclassification rates and AUC, as these are widely used for DR classification and comparison.7. It would be valuable to include a discussion on the limitations and challenges encountered by the studies reviewed in the discussion section. This will offer a more thorough analysis of the current landscape of DR detection using machine learning.8. Adding a section on future directions would be beneficial, highlighting the limitations of previous methodologies and suggesting ways to improve DR detection in the future.	
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PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	We confirm that there are no ethical issues associated with this manuscript.