

**Review Form 3**

Journal Name:	<a href="#">Asian Journal of Research in Computer Science</a>
Manuscript Number:	Ms_AJRCOS_130435
Title of the Manuscript:	<b>Detecting Diabetic Retinopathy Using Machine Learning Algorithms: A Review</b>
Type of the Article	<b>Review Article</b>

### Review Form 3

#### PART 1: Comments

	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<b>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.</b>	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.	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	The title of the article is suitable as it clearly reflects the focus of the manuscript on diabetic retinopathy detection using machine learning techniques.	
<b>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.</b>	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.	
<b>Is the manuscript scientifically, correct? Please write here.</b>	Yes, the manuscript is scientifically correct.	
<b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b>	The references included in the manuscript are relevant but adding the following recent studies would enhance its comprehensiveness: <ul style="list-style-type: none"> <li>a. Bilal, A., Liu, X., Shafiq, M., Ahmed, Z., &amp; 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.</li> <li>b. Jabbar, A., Liaqat, H. B., Akram, A., Sana, M. U., Azpíroz, I. D., Diez, I. D. L. T., &amp; Ashraf, I. (2024). A Lesion-Based Diabetic Retinopathy Detection Through Hybrid Deep Learning Model. <i>IEEE Access</i>.</li> <li>c. Jin, Y., Gui, F., Chen, M., Chen, X., Li, H., &amp; 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.</li> </ul>	
<b>Is the language/English quality of the article suitable for scholarly communications?</b>	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.	
<b><u>Optional/General comments</u></b>	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>4. There are minor spelling mistakes, such as '<u>simi</u> supervised learning'. I recommend authors to proofread the manuscript for such errors.</li> <li>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.</li> <li>6. The authors have mentioned valuable key metrics for DR detection. It would be helpful to</li> </ol>	

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	<p>further elaborate on performance metrics such as Kappa score, misclassification rates and AUC, as these are widely used for DR classification and comparison.</p> <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>	
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### **PART 2:**

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

### Reviewer Details:

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