

Review Form2

Book Name:	Mathematics and Computer Science: Contemporary Developments
Manuscript Number:	Ms_BPR_2693
Title of the Manuscript:	A computer-based image analysis for tear ferning featuring
Type of the Article	Book chapter

PART 1: Review Comments

Compulsory REVISION 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)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.	This manuscript is significant for the scientific community because it introduces a novel computer-based approach for grading tear ferning images, which can greatly enhance the diagnostic process for dry eye conditions. By integrating texture analysis, power spectrum analysis, and line segment counting, the study offers a comprehensive and automated method for assessing tear ferning, potentially leading to more consistent and objective diagnoses. I find this manuscript particularly valuable because it advances the field by providing a sophisticated tool that could improve the accuracy and efficiency of diagnostic procedures. However, the manuscript could benefit from a more detailed explanation of the methodology and validation process to fully establish its practical utility and impact.	
Is the title of the article suitable? (If not please suggest an alternative title)	The present work focuses on the development of a novel computer-based approach for tear ferning (TF) featuring," is somewhat lengthy and lacks clarity. It could be more concise and descriptive to better convey the essence of the research. A more suitable title might be: "Automated Grading of Tear Ferning Images Using a Novel Computer-Based Approach"	
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.	This study aims to develop an automated system for grading tear ferning images to improve the accuracy and efficiency of diagnosing dry eye conditions. A novel approach was introduced, constructing vector characteristics (VC) for each grade using a combination of texture analysis with gray level co-occurrence matrix (GLCM), power spectrum (PS) analysis, and line segment counting. Key features from GLCM, PS at specific frequencies, and the number of line segments were used to build the VC. The results showed significant differences between the VCs for each grade, indicating the potential for accurate automatic grading. This advancement represents a crucial step towards creating more objective and reliable computer-based diagnostic tools for dry eye conditions." Incorporating these changes will provide a clearer and more comprehensive overview of the study's objectives, methods, findings, and significance.	
Are subsections and structure of the manuscript appropriate?	The structure and subsections of the manuscript appear to be focused on a specific, technical approach to image analysis for grading tear ferning.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimumof 3-4 sentences may be required for this part.	1. The manuscript appears to be scientifically robust and technically sound due to its systematic approach to developing a novel computer-based grading method for tear ferning images. The use of multiple advanced techniques, including texture analysis through gray level co-occurrence matrix (GLCM), power spectrum analysis, and line segment counting, demonstrates a comprehensive and methodologically rigorous approach. 2. The careful construction of vector characteristics (VC) for each grade, combined with a detailed feature selection process, ensures that the grading system is both precise and	

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	effective. 3. Furthermore, the identification of significant features and their integration into the VC underscore the study's attention to detail and its potential for accurate and objective grading. Overall, the manuscript's rigorous methodology and detailed analysis suggest a strong foundation for its proposed automated grading system.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. -	Include recent and relevant additional references are to be included , so that these can provide a more comprehensive background and strengthen the scientific foundation of the manuscript.	
Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	Evaluating the language and English quality of the article is crucial for ensuring that it meets the standards of scholarly communication.	
Optional/General comments	The manuscript presents an innovative approach to automating the grading of tear ferning images, which is a significant advancement in the field of dry eye diagnostics. The integration of texture analysis, power spectrum analysis, and line segment counting into a cohesive vector characteristic (VC) is a noteworthy contribution.	

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?	(If yes, Kindly please write down the ethical issues here in details)	

Reviewer Details:

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