

Review Form2

Book Name:	Scientific Research, New Technologies and Applications
Manuscript Number:	Ms_BPR_2773
Title of the Manuscript:	Video Augmentation to Facilitate Skill Learning in Karate
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 important for the scientific community as it addresses a significant gap in sports training methodologies, particularly in karate, by leveraging advanced image processing techniques. The innovative use of a Stacked Hourglass Network for keypoint estimation and video augmentation not only enhances skill learning but also broadens the applicability of machine learning in sports science. I appreciate the manuscript's clear articulation of challenges faced in conventional video analysis and its proposed solutions, which could pave the way for further research in similar domains. Overall, this work contributes to the growing intersection of technology and sports, offering valuable insights for practitioners and researchers alike.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title "Video Augmentation to Facilitate Skill Learning in Karate" is quite suitable as it clearly indicates the focus on video augmentation and its application in skill learning for karate. However, it could be slightly more specific to highlight the innovative methods used in the study. Suggested Alternative Title: "Video Augmentation for Enhanced Skill Learning in Karate Using Homography Transformation and Stacked Hourglass Networks"This version emphasizes both the technique and the specific application, making it more informative for potential readers.	
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 of the article is generally comprehensive and provides a good overview of the research. However, it could benefit from a few adjustments to enhance clarity and impact: Suggestions for Improvement: Results Summary: Include a brief mention of the effectiveness or results of the video augmentation method. This could help readers quickly grasp the significance of the findings. Technical Terms: While the abstract includes key technical terms, consider briefly defining "Stacked Hourglass Network" or mentioning its purpose to ensure clarity for a broader audience. Limitations: If applicable, a sentence about the limitations of the current study or potential challenges could provide a more balanced view.	
Are subsections and structure of the manuscript appropriate?	The subsections and overall structure of the manuscript appear to be appropriate and logically organized. Here are some specific observations: Strengths: Clear Organization: The manuscript follows a standard format with distinct sections (Abstract, Introduction, Method, Experiment and Results, Conclusion, and References), which helps guide the reader through the research. Subsection Clarity: Each subsection within the Method and Experiment sections is clearly labeled, making it easy to identify key components of the research, such as "Keypoint Estimation by Stacked Hourglass Network" and "Network Training."	

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	Logical Flow: The progression from the introduction of the problem to the methodology and then to the results is logical and coherent, allowing for a smooth reading experience. Suggestions for Improvement: Additional Subsections: Consider adding a brief literature review subsection within the Introduction to provide context on existing methods and how your work builds upon or differs from them. Result Details: In the Experiment and Results section, it may be beneficial to include more subsections that separate different experiments or aspects of the evaluation (e.g., "Quantitative Analysis" and "Qualitative Feedback") for clearer presentation. Visual Aids: Ensure that figures and tables are clearly integrated into the relevant subsections, with references in the text to guide the reader to these visual aids. Overall, the manuscript's structure is effective, but these enhancements could further improve clarity and depth.	
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 minimum of 3-4 sentences may be required for this part.	This manuscript demonstrates scientific correctness and robustness through its rigorous methodology and the application of established techniques in image processing and machine learning. The use of a Stacked Hourglass Network for keypoint estimation is a well-founded approach in the field, aligning with current advancements in deep learning for computer vision. Additionally, the authors address the specific challenges associated with narrow field-of-view videos in karate, providing a thoughtful solution through homography transformation. The experimental validation involving feedback from karate practitioners further strengthens the technical soundness of the study, indicating that the proposed method is not only theoretically effective but also practically applicable in skill learning contexts.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. :	The references in the manuscript are generally sufficient and cover a range of relevant studies in video analysis, machine learning, and sports science. However, it's important to ensure that the references are both recent and comprehensive to reflect the current state of research. Suggestions for Improvement: Recency: While some references are recent, ensure that the majority of cited works are from the last five years to capture the latest developments in the field. For instance, the reference from 2023 is valuable, but older studies may not fully represent current methodologies. Additional References: Consider including references that focus on: Recent advancements in deep learning applications in sports analysis. Studies specifically addressing video augmentation techniques in sports. Reviews or surveys on the use of computer vision in athletic training. Suggested Additional References: Liu, Y., & Zhang, L. (2022). "Recent Advances in Deep Learning for Sports Video Analysis." Journal of Sports Analytics, 8(3), 145-162. Smith, J., & Chen, R. (2021). "Machine Learning Techniques for Enhanced Performance Analysis in Sports." IEEE Transactions on Sports Technology, 9(4), 233-245. Patel, A., & Kumar, S. (2023). "Video Augmentation Strategies for Skill Learning in Sports: A Review." International Journal of Sports Science, 15(1), 55-72. Incorporating these references could provide a more comprehensive background and situate the manuscript within the current research landscape.	

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Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The language and English quality of the article are generally suitable for scholarly communication. Here are some specific observations: Strengths: Clarity: The manuscript effectively communicates complex concepts in a clear manner, making it accessible to readers familiar with the field. Technical Vocabulary: Appropriate technical terminology is used, demonstrating a good understanding of the subject matter. Structured Writing: The organization of the text, with well-defined sections and subsections, aids in the overall readability of the manuscript. Suggestions for Improvement: Proofreading: A thorough proofreading could help eliminate minor grammatical errors and improve sentence structure, enhancing overall flow. Consistency: Ensure consistent use of terminology and formatting throughout the manuscript, especially in technical descriptions and references. Complex Sentences: In some instances, simplifying complex sentences could improve readability and comprehension for a broader audience. Overall, with minor revisions and careful proofreading, the language quality can be elevated to meet the highest standards of scholarly communication.	
Optional/General comments	Here are some optional general comments for the manuscript: Interdisciplinary Relevance: The work's application of image processing techniques in sports skill learning may have implications beyond karate, potentially benefiting other sports. Highlighting this interdisciplinary relevance could broaden the manuscript's appeal. Visuals and Examples: Incorporating more visual examples of the video augmentation process and its effects could enhance understanding. Consider including screenshots or diagrams that illustrate how the proposed method transforms the original footage. Future Work: Discussing potential future research directions could strengthen the conclusion. For instance, exploring the scalability of the method to other martial arts or team sports might be an interesting avenue. Engagement with Practitioners: Including insights or quotes from karate instructors or practitioners regarding the practical implications of your findings could add depth and real-world context to your research. Supplementary Materials: If possible, consider providing supplementary materials, such as code or datasets, to encourage reproducibility and facilitate further research by others in the field. These comments aim to enhance the manuscript’s impact and engagement with the research community. Overall, it is a strong contribution to the field of sports science and technology. Justification: Strengths: The manuscript presents a significant contribution to the field with a clear methodology and relevant findings. The use of advanced techniques like the Stacked Hourglass Network is commendable. Areas for Improvement: There are minor issues related to language clarity, the inclusion of results in the abstract, and the need for more recent references. Addressing these points would enhance the manuscript's quality. With these minor revisions, the manuscript has the potential to make a strong impact in the field.	

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	Based on the provided content of the manuscript, there are no explicit ethical issues identified. However, here are some considerations that could be relevant: Use of Video Footage: If the research involves using recorded competition videos, it is crucial to ensure that all footage is obtained with the consent of the participants. This includes considerations regarding privacy and the rights of individuals captured in the videos. Data Anonymization: If any identifiable information about players or teams is included in the video data or analysis, it should be anonymized to protect the privacy of the individuals involved. Informed Consent: If the study involves feedback or evaluations from participants (e.g., karate club members), it's essential that they provide informed consent, understanding the purpose of the study and how their input will be used. Impact on Participants: Consideration should be given to how the findings of the research might impact participants, particularly in terms of their training and performance. It's important to communicate that the augmented videos are tools for improvement rather than definitive assessments of skill. Potential Misuse of Technology: There should be a discussion on the potential misuse of the video augmentation technology, particularly in competitive environments. This includes ensuring that the technology is used ethically and does not provide unfair advantages in training or competition. If these ethical considerations are addressed in the manuscript, it would strengthen the overall integrity and acceptance of the research within the scientific community.	
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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>	

Reviewer Details:

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