

Review Form 3

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| Journal Name: | Journal of Engineering Research and Reports |
| Manuscript Number: | Ms_JERR_129979 |
| Title of the Manuscript: | Data Augmentation Techniques Using Generative Adversarial Networks: Employing GANs to create synthetic data for enhancing machine learning model training. |
| Type of the Article | |

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. | This manuscript holds significant importance for the scientific community as it explores the use of Generative Adversarial Networks (GANs) for data augmentation, a critical area in machine learning. By generating synthetic data, GANs can address challenges such as data scarcity and class imbalances, ultimately improving the performance and robustness of machine learning models. The techniques discussed in this work have the potential to advance fields like healthcare, autonomous systems, and natural language processing by enabling more accurate and reliable models. Furthermore, this research contributes to the growing body of knowledge on GAN applications, inspiring further innovation and exploration in the domain. | |
| Is the title of the article suitable? (If not please suggest an alternative title) | The title is suitable, but it could be made more concise and engaging. | |
| 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 appears to provide a clear overview of the topic, focusing on the use of GANs for synthetic data generation to improve machine learning model training. However, it could benefit from additional details to make it more comprehensive. Consider including the following points: <ol style="list-style-type: none"> 1. A brief mention of specific applications or domains where GAN-based data augmentation has proven effective (e.g., healthcare, image recognition, natural language processing). 2. A summary of key challenges or limitations associated with using GANs for data augmentation. 3. An indication of how this technique compares to traditional data augmentation methods in terms of effectiveness or efficiency. | |
| Is the manuscript scientifically, correct? Please write here. | Yes | |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. | The references provided are sufficient and relevant, but it would be beneficial to include more recent studies or papers published within the last year to ensure the research is up-to-date. Additionally, you might consider referencing works that specifically explore the effectiveness of GAN-based data augmentation across various domains, such as healthcare, image recognition, or natural language processing, for a broader perspective. | |
| Is the language/English quality of the article suitable for scholarly communications? | Yes | |
| <u>Optional/General</u> comments | | |

Review Form 3

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> |
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| 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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| Name: | Archana Balkrishna Yadav |
| Department, University & Country | Gujarat Technological University, India |