

Peer Review

Review of: "Exploring the Magnitude-Shape Plot Framework for Anomaly Detection in Crowded Video Scenes"

Rangachary Kommanduri¹

1. Independent researcher

The authors present an interesting approach to video anomaly detection by combining the Magnitude-Shape (MS) framework with an autoencoder. The idea of using both amplitude (magnitude) and pattern (shape) deviations for detecting anomalies is good, but the motivation behind this approach is not clearly explained. It would help if the authors could better explain why this method is novel and how it improves upon existing techniques.

The paper claims that the model can detect subtle anomalies by analyzing magnitude and shape deviations, but there are no qualitative results to support this claim. Adding visual examples or case studies would make the results more convincing. The integration of the MS framework with the autoencoder is not explained clearly, and it is unclear how such a simple integration achieves state-of-the-art results. A more detailed explanation or an ablation study would help readers understand how each part contributes to the overall performance.

The paper only evaluates the model on the Ped2 dataset and does not explain why Ped1 or other datasets were not used. Testing on more datasets would make the results more reliable. The literature review section is not clear and should better explain how the proposed method differs from or improves upon existing approaches.

Table 3 does not seem necessary and could be removed to make the paper more concise. The results section needs better organization to improve clarity. The methods compared in Table 6 need proper references so readers can verify the comparisons. Showing AUC scores for individual videos is a good practice, but it is unclear whether the AUC scores in Figures 9 and 10 are macro or micro averages. This should be clarified.

The proposed model seems to be supervised, so comparing it directly with unsupervised models in Tables 9 and 10 may not be fair. A comparison with other supervised methods would be more meaningful. Finally, the purpose of Figure 4 is unclear, and the authors should explain what it is meant to show and how it contributes to the paper.

Declarations

Potential competing interests: No potential competing interests to declare.