Dealing Background Issues in Object Detection using GMM: A Survey

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Abstract

Moving object detection is critical task in video analytics. Gaussian Mixture Model (GMM) based background subtraction is widely popular technique for moving object detection due to its robustness to multimodality and lighting changes. This paper presents the critical survey about various GMM based approaches for handling critical background situations. This survey describes various challenges faced by background subtraction such as shadow, sudden and slow light changes, multimodal background, bootstrap, camouflage, foreground aperture, camera jitter etc. and study of various modifications or extensions of GMM to handle these issues. This study helps researcher to select appropriate GMM version based on critical background condition.

References

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15. Lee D. Improved adaptive mixture learning for robust video background modeling. IAPR Workshop on Machine Vision for Application (MVA 2002), Nara, Japan, December 2002; 443-446
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Index Terms

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Keywords

Object Detection, Background Subtraction, Gaussian Mixture Model, Background challenges