Exploiting better motion cues for better action recognition

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1. INTRODUCTION

Several recent studies on action recognition have emphasised the significance of including motion characteristics clearly in the video description. This work shows that properly partitioning visual motion into dominant and residual motions enhances action recognition algorithms greatly, both in terms of extracting space-time trajectories and computing descriptors. Then, using differential motion scalar variables, divergence, curl, and shear characteristics, we create a new motion descriptor, the DCS descriptor. It adds to the results by capturing additional information on local motion patterns. Finally, adopting the recently proposed VLAD coding technique in image retrieval improves action recognition significantly. On three difficult datasets, namely Hollywood 2, HMDB51, and Olympic Sports, our three additions are complementary and lead to beat all reported results by a large margin.

2. REFERENCES

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