

Statistical Pitch Type Recognition in Broadcast Baseball Videos

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Abstract. This paper aims to recognize five baseball pitch types from the broadcast baseball game video. Seeing that each pitch type has its own characteristics in speed, trajectory, acceleration and shape, we propose a baseball pitch type recognition scheme that analyzes the spatio-temporal characteristics of ball trajectories. We model the temporal behavior of pitch type using Hidden Markov Models. Our method further extracts the acceleration features of trajectory and then adopts Bayesian decision to classify the features to further enhance the recognition accuracy.

Keywords: Pattern recognition, sports video analysis, video retrieval.

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