

Estimation of Vanishing Point in Camera-Mirror Scenes Using Video (Abstract)

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Knowledge of the vanishing-point position is the key for the geometrical modeling of reflective surfaces or cast shadows. An automatic method is presented using motion statistics to determine correspondences, and an improved fitting function for final parameter estimation which takes into account the statistical properties of image-points. The experiments show that our approach gives robust results in the context of widely different environments especially in cases where the correspondences are corrupted with considerable amounts of noise.

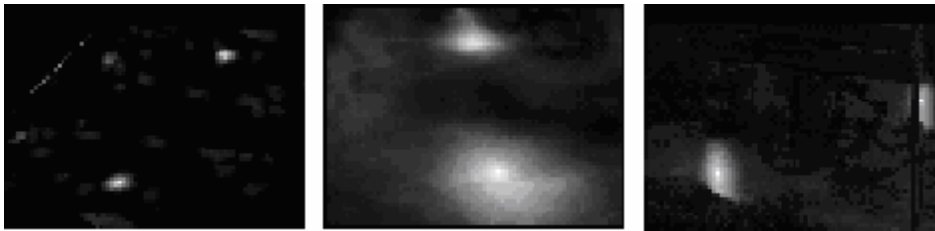


Fig. 1. Odd sample from co-motion statistics, for “Ants”, “Mice”, and “Shop” sequences.

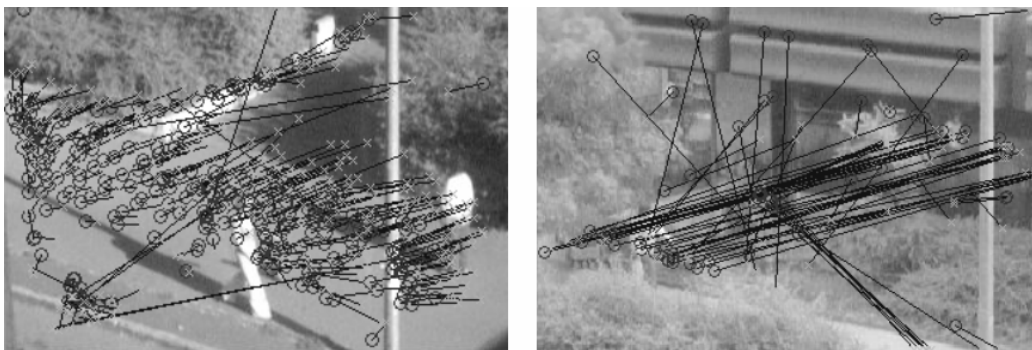


Fig. 2. Sample correspondences of “Mice” and “Shop” sequences corrupted with several outliers.

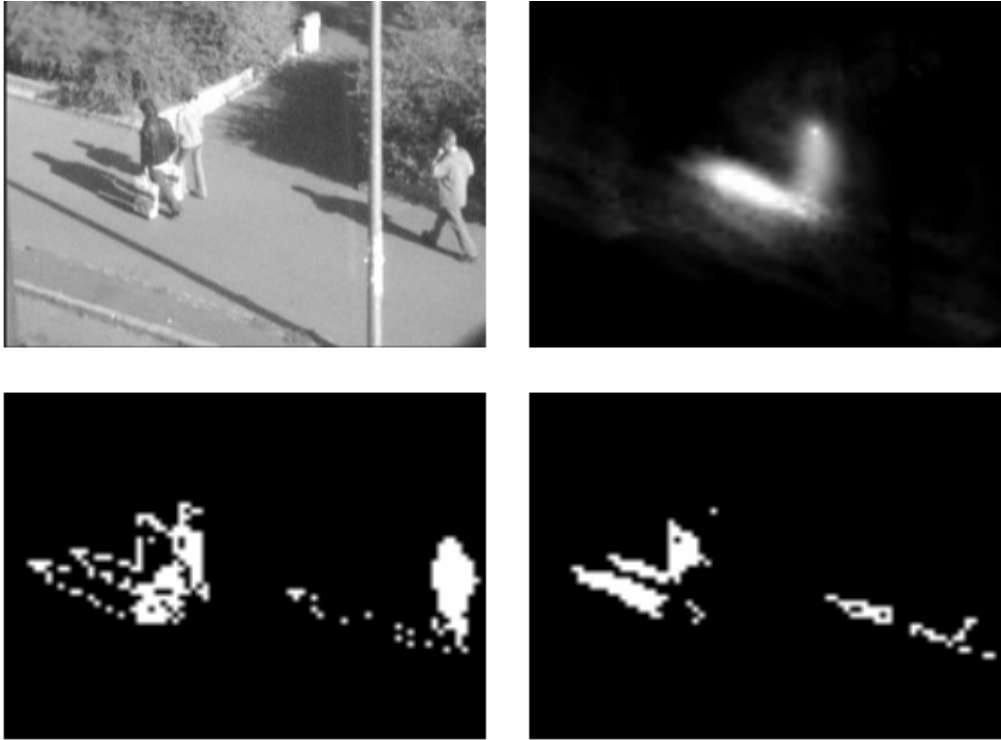


Fig. 4. Computation steps: input image, a co-motion statistic, foreground and shadow masks.

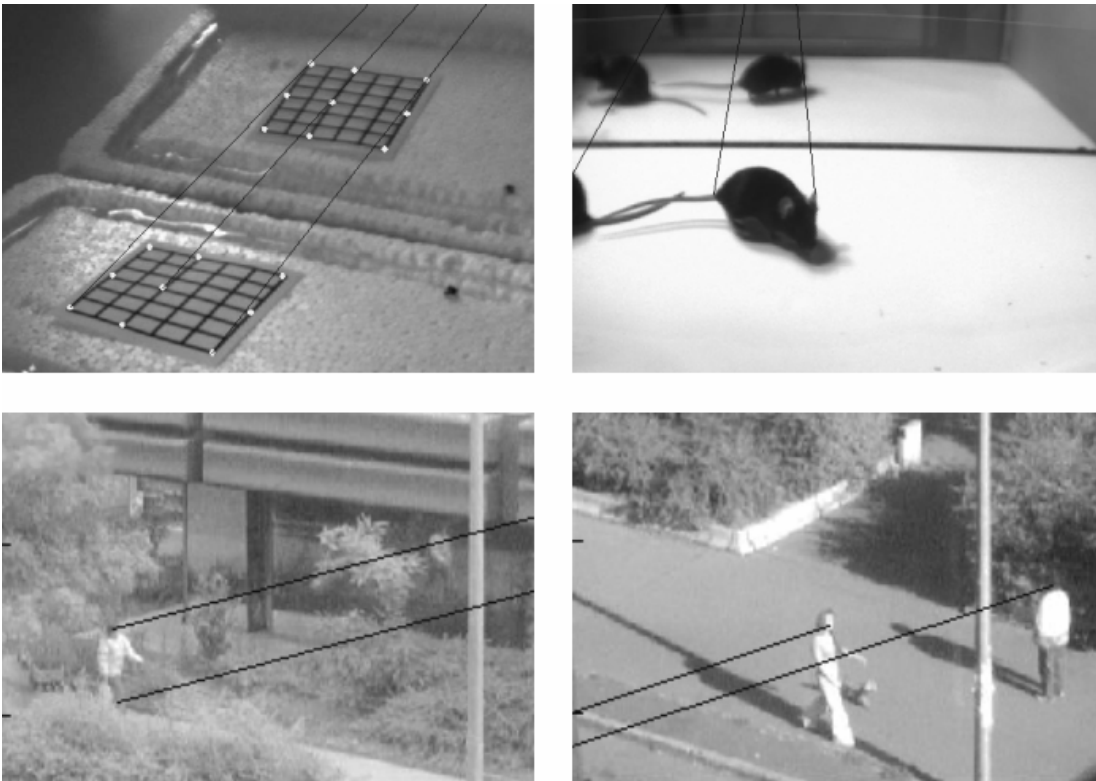


Fig. 5. Results are demonstrated with the collinearities of VP, original point and reflected point.