Effect of Probabilistic Segmentation method on Multiple Views

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Abstract

Image segmentation is used as the preliminary step in many of the image processing applications. Some of the applications depend heavily on the initial models obtained as silhouettes. Segmentation Result should be finite to the nearest extension possible to get better result out of the succeeding operations. Making perfect initial model silhouette is a problem and challenge. Multiview segmentation is a relatively new area of segmentation which can be effectively used for the purpose of 3D modeling, Animation, Object recognition, Multimedia search etc. Out of different ways of segmentation, study reveals that Bayesian method is the most suitable type for silhouette estimation because of the nature of utilizing previous details. The proposed method utilizes Bayesian method along with Graph cut method for the silhouette optimization. The Normalized graph cut overcomes the limitations of ordinary graph cut and provides advantages like noise removal, reduced false alarm rate etc. Here the proposal is an automatic way (does not need user interaction, Background knowledge) for multiview segmentation which combines probabilistic method along with normalized Graph cut optimization to provide Reduced false alarm rate (FAR) and better silhouette for the foreground to be extracted.

Refer
References

- Dr. G. Padmavathi, M. Muthukumar, Suresh Kumar Thakur 2010 "Implementation and Comparison of Different segmentation Algorithms used for Images Based on Nonlinear Objective Assessments" 3rd International Conference on Advanced Computer Theory and Engineering(ICACTE), 2010.
- K. Kolev, T. Brox, and D. Cremers "2006 Robust variational segmentation of 3D Objects from multiple views". In K. Franke et al., editor, Pattern Recognition Conference at Berlin (Proc. DAGM), volume 4174 of LNCS, pages 688-697, Berlin, Germany, September.
- Guang Yang; Kexiong Chen; Maiyu Zhou; Zhonglin Xu; Yongtian Chen 2007; Study on Statistics Iterative Thresholding Segmentation Based on Aviation Image , 2007. Eighth IEEE ACIS International Conference :
- Hong Lan; Ling Chen; Wei Hu; 2007 “An approach on liver medical image segmentation based on quad tree “Multimedia Technology (ICMT), 2011 IEEE International Conference.
- Xiaoming Song; Guoliang Fan; 2002 “A study of supervised, semi-supervised and unsupervised multiscale Bayesian image segmentation” IEEE international conference Page(s): II-371 -II-374 vol.2
- R. C. Gonzalez and R. E. Woods 1192 Digital Image Processing. Addison Wesley, 2nd
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- Jianbo Shi and Jitendra Malik 2000"Normalized Cuts and Image Segmentation" IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, VOL. 22, NO. 8, AUGUST

Index Terms

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Keywords

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