Abstract

The Image Foresting Transform has been proposed for the design of image operators based on connectivity. The IFT reduces image processing problems into a minimum-cost path forest problem in a graph derived from image. It has been successfully used for image filtering, analysis and segmentation. In this work, we concentrate our research in the IFT image segmentation, especially the boundary tracking segmentation. In this case, from a sequence of points in order selected on the edge of objects, the IFT detects the optimun contour that passes for these points. However, we verify the three following problems: the method is sensible the localization of the points selected on the edge of the object, as well as it requires that these are ordered in the clockwise one (or counter-clockwise). When exists very next objects between itself and with similar characteristics of image, some optimun segments can stick in the edge of other objects, or either, it occurs the appearance of spurious edges. In this work, we analyze these problems and possible solutions that depend on the application. Particularly, we select an application of multiple object detention with similar textures where the three problems occur. The results with the analysed/proposed solutions substantially improve the performance of the IFT.