

Turkish Journal of Electrical Engineering & Computer Sciences

Turkish Journal

of

Electrical Engineering &
Computer Sciences

Analysis of Images of Cells with Neurites

Florence Cloppet, Georges Stamon

Laboratoire des Systèmes Intelligents de Perception,
UFR de Mathématiques et d'Informatique,
Université René Descartes (Paris V) 45,
rue des St-Pères 75006 Paris-FRANCE

INSERM U339 Imagerie Quantitative Appliquée aux
Neurorégulations Endocriniennes Hôpital St-antoine 184
rue du Faubourg St-Antoine 75012 Paris-FRANCE
email: cloppet@math-info.univ-paris5.fr
http://www.univ-paris5.fr/sip-lab/cloppet/home.html

 [Keywords](#)
 [Authors](#)



elektrik@tubitak.gov.tr

[Scientific Journals Home Page](#)

Abstract: This study is concerned with the segmentation of cytological images and extraction of cellular entities in order to provide quantitative data about the number of cells in culture (statistical tests, morphology, model of evolution, etc). This quantitative supply is useful in biology to evaluate the consequences of the application of active substances on morphological changes and cellular viability. It is related to the conception of a system dedicated to automatic analysis of cell images, in order to evaluate the effects of drugs on the morphology of neuronal cells. We use a cooperative region / contour segmentation, which gives closed polygonal contours. As the neurites can cross over, the obtained closed polygonal contours can contain several cells. In order to extract each cell contour, a method of entity extraction has been developed. It is based on a vectorial shape descriptor: the bisector network, which is a simplified generalized Voronoi diagram. Keywords: Cytological images analysis, Region growing, Active contours, Skeletons, Generalized Voronoi diagram.

Turk. J. Elec. Eng. & Comp. Sci., 6, (1998), 75-88.

Full text: [pdf](#)

Other articles published in the same issue: [Turk. J. Elec. Eng. & Comp. Sci.,vol.6,iss.2.](#)