SEGMENTATION OF 3D OBJECTS USING PULSE–COUPLED OSCILLATOR NETWORKS (WedPmPO1)

Author(s):
Eva Ceccarelli (University of Firenze, Italy)
Alberto Del Bimbo (University of Firenze, Italy)
Pietro Pala (University of Firenze, Italy)

Abstract:
Along with image and video libraries, archives of 3D models have recently gained increasing attention. Accordingly, there is an increasing demand for solutions enabling retrieval of 3D models based on global properties as well as properties of object parts. In particular, retrieval based on object parts relies on segmentation of 3D objects into their constituent parts. This is a challenging task, as the identification of object parts should conform to human perceptual judgement. Therefore, definition of models and solutions that enable decomposition of 3D objects into perceptually relevant parts is a fundamental step to enable effective retrieval based on object parts. However, a few approaches have been proposed to support segmentation of 3D meshes into perceptually relevant parts. In this paper we propose a model based on pulse–coupled oscillator networks. Preliminary experiments are reported to demonstrate the validity and potential of the proposed solution.