

Multi-Scale Segmentation :
An application for shape parameter extraction and potential use of
MRF

Abstract

In recent years scale space theory is proved to be useful and promising in machine vision tasks. The theory is in accordance with human vision perception model. In the presentation a methodology is discussed where a Multi-Scale pyramid formation along-with mean-shift is used as a pre-processing step. In further step, k-Means is used for clustering and averaging out the background.

The results are shown for nano-particles (TEM images) and islet of Langerhans.

First problem is solved completely and tested , whereas second problem is still in fancy stage and has to be tested with ground-truth images. Initial tests are encouraging and theory can further be developed to solve the problem.

In some recent works MRF based models are used on Multi-scales to achieve high performance. Its potentiality is looked upon in the light of such recent work and potentiality of it for future research work.