Registration of Microscopic Iris Image Sequences Using A Probabilistic Mesh

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***Abstract*— This paper explores the use of deformable mesh for registration of microscopic iris image sequences. The registration, as an effort for stabilizing and rectifying images corrupted by motion artifacts, is a crucial step toward leukocyte tracking and motion characterization for the study of immune systems. The image sequences are characterized by locally nonlinear deformations, where an accurate analytical expression can not be derived through modeling of image formation. We generalize the existing deformable mesh and formulate it in a probabilistic framework, which allows us to conveniently introduce local image similarity measures, to model image dynamics and to maintain a well-de?ned mesh structure and smooth deformation through appropriate regularization. Experimental results demonstrate the effectiveness and accuracy of the algorithm.**

NOTE

Please refer to the proceedings of the main conference. Since this paper was accepted for publication at MICCAI 2006 it was not included in the workshop proceedings.