

Abstract:

Image registration is an often encountered problem in digital imaging, in particular in medical imaging. In most applications simple rigid deformations are not satisfactory and complex, non-rigid and non-linear deformations must be employed. A large class of non-rigid, parameter-free, matching techniques minimizes the distance of the given images subject to a regularizing term. In this note we propose a novel scheme for automatic registration by introducing a specific regularizing term. We show that the complexity of its implementation is linear with respect to the size of the images and demonstrate its performance. Moreover, we draw a connection to Thirion's demon based approach.