

Image comparison and scaling via nonlinear elasticity

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A nonlinear elasticity model for comparing images is formulated and analyzed, in which optimal transformations between images are sought as minimizers of an integral functional. The existence of minimizers in a suitable class of homeomorphisms between image domains is established under natural hypotheses, and the question of whether for linearly related images the minimization algorithm delivers the linear transformation as the unique minimizer is discussed. This is joint work with Chris Horner.