

# Diffeomorphic deformations to study shapes: a modular method

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In order to study a population of  $N$  shapes (such as MRI images for instance), a successful approach is to build an atlas: a mean shape and  $N$  deformations characterizing the differences between the template and each subjects. At the heart of this idea is the construction of these deformations. We have developed a new framework to build diffeomorphic deformations so that a generic prior can be easily incorporated in the deformation model. This prior can for instance correspond to an additional knowledge one would have on the possible deformations. Our framework is based on the notion of deformation modules which are structures capable of generating vector fields of a particular chosen type and parametrized in small dimension. Several deformation modules can combine and interact in order to general a multi-modular diffeomorphisms.

## Références

- [1] AUTEUR, *Titre*, Editeur, année.
- [2] AUTEUR, *Titre*, Revue, références, année.