

## Deep learning of diffeomorphisms with applications

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One of the fundamental problems in shape analysis is to align curves or surfaces before computing geodesic distances between their shapes. Finding the optimal reparametrization realizing this alignment is a computationally demanding task, typically done by solving an optimization problem on the diffeomorphism group.

We present an approach where we approximate diffeomorphisms with neural networks and use the optimal control and dynamical systems point of view to deep learning.

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