

Center for Cardiovascular Bioinformatics & Modeling

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Abstract:

Recent years have seen rapid advances in the mathematical specification of models for image analysis of human anatomy. As first described in "Computational Anatomy: An Emerging Discipline", Grenander and Miller, Quarterly of Applied Mathematics, Vol. 56, 617-694, 1998, human anatomy is modeled as a deformable template, an orbit under the group action of infinite dimensional diffeomorphisms. In this talk, we will describe recent advances in CA, specifying a metric on the ensemble of images, and examine distance between elements of the orbits, "Group Actions, Homeomorphisms, and Matching: A General Framework", Miller and Younes, Int. J. Comp. Vision Vol. 41, 61-84, 2001, "On the Metrics of Euler-Lagrange Equations of Computational Anatomy, Annu. Rev. Biomed. Eng., Vol. 4, 375-405, 2002. Numerous results will be shown comparing results from disease testing on metric formulation of the deformable template, including results from disease testing on the hippocampus, and cortical structural and functional mapping.

UPCOMING SEMINARS:

Laurent Younes, JHU WSE	4/13
Tanveer Syeda-Mahmood, IBM	4/20
Akhilesh Pandey, JHU SOM	4/27
David Cutler, JHU SOM	5/4
Raimond Winslow, JHU SOM, WSE	5/11

Date: 3/30/04

Time: 4:00 – 5:00 PM

Location: Clark 110

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