

Shape-based Statistical Methods for Medical Imaging

Shape-based statistical analysis on manifolds in the past twenty plus years have been rapidly developed and applied to medical imaging problems. During this time period, statisticians began working more and more with nonlinear object data, regarding their observations as points on manifolds. In this work, we give a brief overview of several different medical imaging problems including a DTI application, a CAT scan application, etc., and provide some shape-based statistical methods for addressing possible questions in those areas.