Multi-Scale Deep Networks and Regression Forests for Direct Bi-ventricular Volume Estimation

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Highlights

- We propose a general, fully learning-based framework for direct estimation of cardiac bi-ventricular volumes by combining the strengths of both generative and discriminant learning.
- A novel multi-scale convolutional deep network is proposed for unsupervised cardiac image representation learning from unlabeled data.
- Bi-ventricular volume estimation is formulated as a regression problem and random forests are employed for efficient volume estimation.