An Automatic Generation Technique of 3D vessels Model from Angiograms

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Abstract - We present a method to automatically generate 3D vessels model from angiograms. The modeling method consists of two types , (1) automatically selecting two sets of corresponding feature points between general and individual vessels , and (2) warping with corresponding control points . The final algorithm is formulated as an energy minimization problem that we solve using dynamic programming optimization . Accurate descriptions of 3D vessels model would be useful for quantitative diagnosis of athrosclerosis , for surgical or treatment planning , for monitoring disease progress or remission , and for comparing efficacies of treatments .