

[Liu, Lifeng](#); [Sclaroff, Stan](#)

**Index trees for accelerating deformable template matching.** (English) Zbl 1007.68913  
[Pattern Recognit. Lett.](#) 23, No. 12, 1483-1493 (2002).

Summary: An improved method for deformable shape-based object detection and segmentation is described. A pre-computed index tree is used to improve the speed of deformable template fitting. Simple shape features are used as keys in a pre-generated index tree of model instances. A coarse to fine indexing scheme is used at different levels of the tree to further improve speed. The index tree approach is demonstrated as an improvement to a previously-reported template-based region segmentation system. Experimental results show that when index trees are used, the speedup is significant while accuracy of shape-based indexing is maintained.

**MSC:**

[68U99](#) Computing methodologies and applications

[68T10](#) Pattern recognition, speech recognition

**Keywords:**

[deformable templates](#); [index tree](#); [template matching](#)

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