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Sommario/riassunto	We propose a simple probabilistic generative model for image segmentation. Like other probabilistic algorithms (such as EM on a Mixture of Gaussians) the proposed model is principled, provides both hard and probabilistic cluster assignments, as well as the ability to naturally incorporate prior knowledge. While previous probabilistic approaches are restricted to parametric models of clusters (e.g., Gaussians) we eliminate this limitation. The suggested approach does not make heavy assumptions on the shape of the clusters and can thus handle complex structures. Our experiments show that the suggested approach outperforms previous work on a variety of image segmentation tasks.