

Abstract. An algorithm is presented which uses evidence accumulation to perform shape recognition. Because it uses accumulators, noise and isotropic measurement errors tend to average out. Furthermore, such methods are intrinsically parallel. It is demonstrated to perform better than any competing technique, and is particularly robust under partial occlusion. Its performance is demonstrated in applications of silhouette and face recognition using only edges and in solving the correspondence problem for image registration. The method uses only biologically-reasonable computations.