Neural Networks for Model Matching and Perceptual Organization

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Abstract: We introduce an optimization approach for solving problems in com(cid:173)puter vision that involve multiple levels of abstraction. Our objective functions include compositional and specialization hierarchies. We cast vision problems as inexact graph matching problems, formulate graph matching in terms of constrained optimization, and use analog neural networks to perform the optimization. The method is applicable to per(cid:173) ceptual grouping and model matching. Preliminary experimental results are shown.