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  Visual Recognition by Computers: Generic Model Abstraction from Examples

  The recognition community has long avoided bridging the representational gap between traditional, low-level image features and generic models. Instead, the gap has been eliminated by either bringing the image closer to the models, using simple scenes containing idealized, textureless objects, or by bringing the models closer to the images, using 3-D CAD model templates or 2-D appearance model templates. In this talk, we attempt to bridge the representational gap for the domain of model acquisition. Specifically, we address the problem of automatically acquiring a generic 2-D view-based class model from a set of images, each containing an exemplar object belonging to that class. We introduce a novel graph-theoretical formulation of the problem, and demonstrate the approach on real imagery.

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