- Wednesday, October 6, 2004
  Making Effective Artistic Renderings

  I will describe two ongoing projects that seek to produce easily-perceived imagery using new theories in cognitive science that relate artistic images to realistic images through our understanding of human visual perception. Much of this talk will focus on a new computational approach for making convincing line-drawings of three-dimensional shapes. It goes beyond occluding contours (which include the silhouette) and creases, and relies on a new class of lines: suggestive contours. Suggestive contours are lines on the surface that become true contours in nearby viewpoints; they turn out to be located at certain view-dependent inflections of the surface. Suggestive contours convey much richer information about shape than contours can alone, yet they do so in a way that harmonizes with the contours. Supported by a range of examples, I'll discuss the mathematical properties of suggestive contours, their perceptual implications, and their computational realization.

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