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Project Research

Image Feature Extraction

My problem of extracting features from images is pretty well documented; in fact, there are multiple techniques for extracting features that I want to try to implement using Saul. Ultimately, image feature extraction is “one way of dimensionality reduction” (Source 1). It is a way of breaking down images into more meaningful and data, through techniques such as edge detection, Hough transformation, image entropy filters, and saliency operators (Source 2). Ultimately, these techniques find regions of interest, which are supposed to contain high concentrations of information, to be used as features in machine learning. The biggest challenge for these feature extraction techniques is the fact that it is not always clear where one boundary ends and another begins. However, given that these techniques are used to extract features from images in machine learning applications in computer vision today, these techniques are effective in finding notable regions of interest in different images. Thus, I am excited about trying to implement some of these image feature extraction techniques in Saul.

References:

<http://home.in.tum.de/~aichert/html-data/featurepaper.pdf>

<http://vlm1.uta.edu/~patjang/cvpr2012/Books/feature-extraction-image-processing-second-edition.pdf>