

## Appendix A: Face subclasses

In Fig. 3, we showed an example of features versus context. In that example, we illustrated the idea with the class “eyes.” In Fig. S1 we show the subclasses for the class “face” and those of the face context. In the two plots, the Gaussian distribution defining each subclass has been projected into the two eigenvectors associated to the largest eigenvalues. These correspond to the ellipsoids in the figures. The mean of each subclass is shown as an image, i.e., the mapping of the mean feature vector to the image space. Also shown are the two principal components of each of these Gaussians,  $\mathbf{v}_1$  and  $\mathbf{v}_2$ . The feature vectors located at  $\lambda_i^{1/2}$  from the mean are shown in their image form,  $i = 1, 2$ . The class “faces” is represented by several subclasses, of which five are shown. Note how these subclasses describe different illuminations and orientations. We also note the similarity of the face context templates to the faces class. These are descriptions of scaled and translated face templates captured at different illuminations and orientations. It is also important to note that the face context subclasses are more abstract than the actual faces.

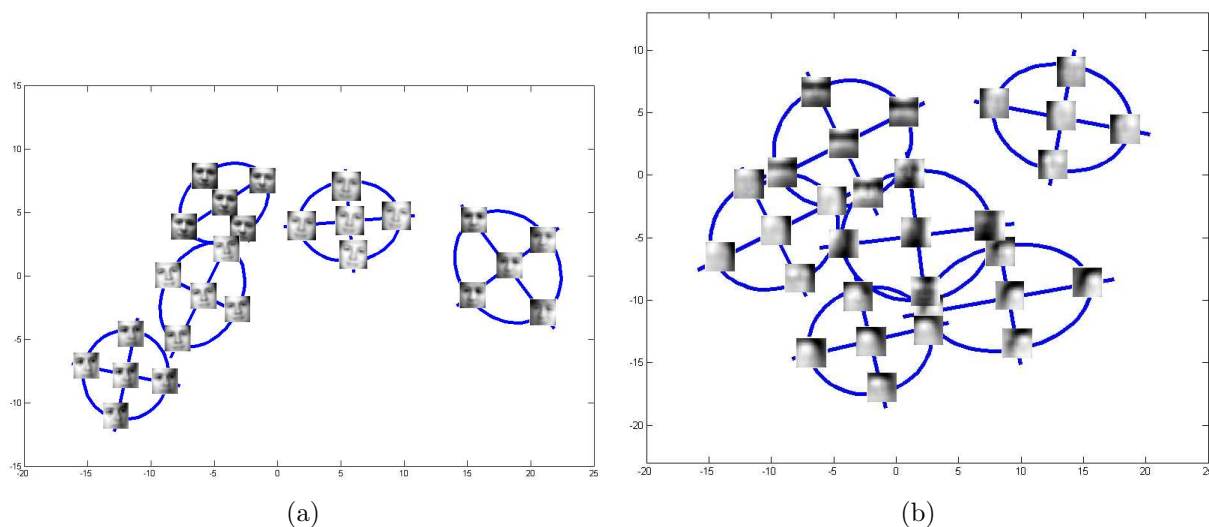


Figure S1: Shown here are the subclasses defining (a) the faces and (b) the face context.