**Interest Point Detection**

Challenges:

1. Interest Points detect non-pertinent information: Earrings, Hair, Glasses, Clothing
2. Facial Shadows – favor points on the non-shadowed side

Approaches:

1. High number of points, with maximal suppression as a function of radius from center (Gaussian). What about glasses (only 5 samples – remove)?
2. Greatly increase the number of interest points to catch both sides. Ignore gradient magnitudes, only directions

Take the gradient of a Gaussian smoothing mask and apply (same as smoothing then derivative).

**Gradient Histograms**

Challenges:

1. Facial Rotation
2. Background Glare
3. Facial Shadows

Approaches:

Results:

* Larger bin counts performed better, 12,24, 36
* Threshold around 100
* neighsize = 9

4 classes around 35%

~300-1000 interest points