

Localizing Parts of Faces Using a Consensus of Exemplars

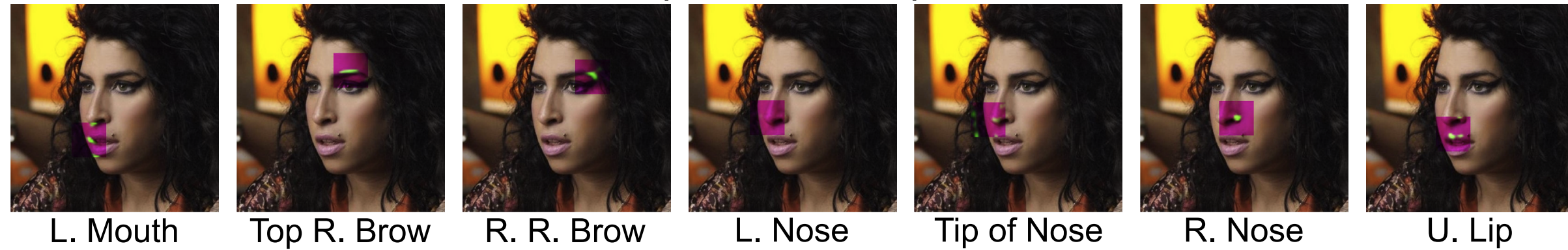
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1. Local Detector Outputs (d^i , $i=1..29$) (SIFT features with SVM RBF classifiers)



2. Choose Exemplar Set (M)

Randomly Chosen Exemplar k	Two Points Randomly Chosen from Local Detectors	Exemplar Aligned using Transform t	Probability $P(X_{k,t} D)$ using Eq. 1 (below)
			0.81
			0.75
			0.52
			0.45

$P(X_{k,t} | D) = C \prod_{i=1}^n P(x_{k,t}^i | d^i)$ (From 1100 faces, pick top 100 k,t pairs.)

3. Compute Locations (X)

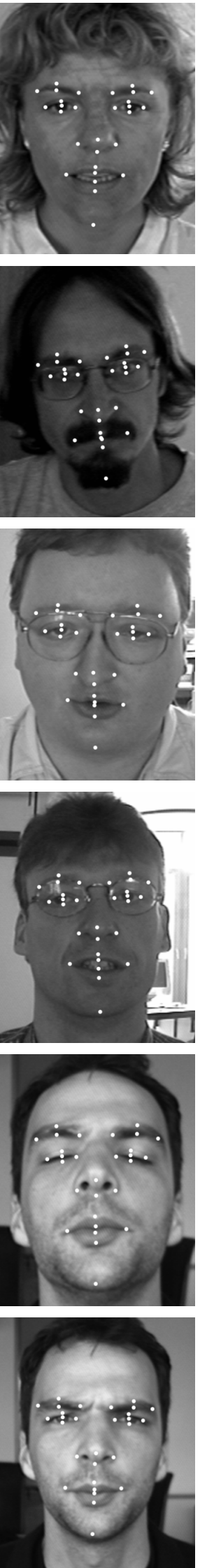
Global Gaussian Models Only	Local Detector Outputs Only	Combined Product - see Eq. 2 (below)

$\sum_{k,t \in M} \mathcal{N}(x_{k,t}^i, \sigma) P(x^i | d^i)$

5. Results on new real-world dataset with 3,000 faces: Labeled Face Parts in the Wild (LFPW)



6. BioID Results



4. Progression of Results



7. Comparisons

(300 test faces in LFPW, 1521 faces in BioID)

