THE UNIVERSITY OF WARWICK

Face Recognition with Occlusion Using Dynamic *Image-to-Class* Warping (DICW)

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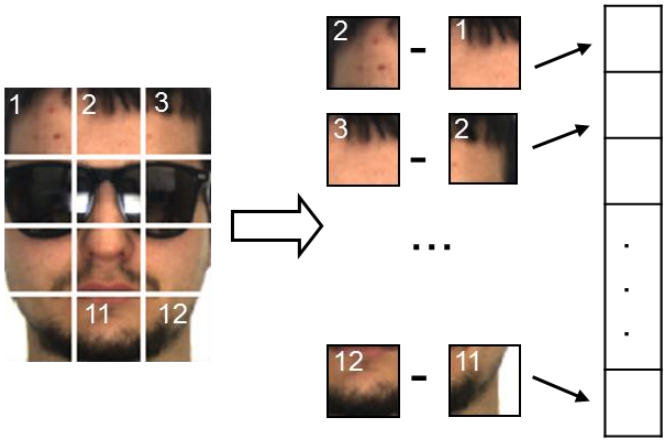
FG 2013

Face recognition with occlusions

- **Occlusion**

  - Intra-class variations > inter-class variations
  - Causes imprecise registration of faces
- **Face representation**



An image → a patch sequence

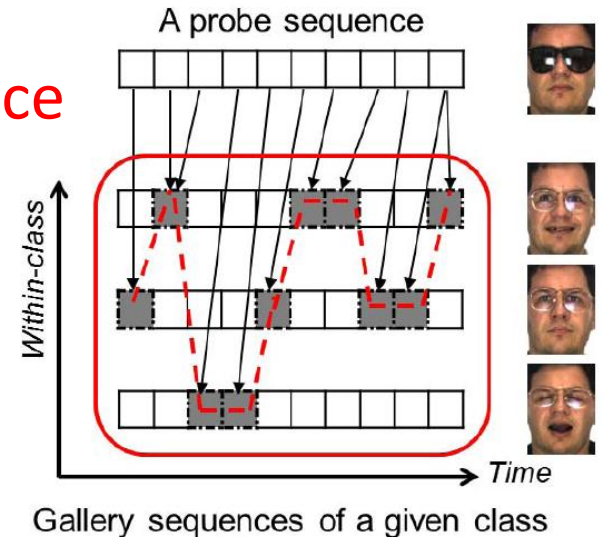
  - Partitioned to non-overlapping patches
  - Difference patches are generated by the spatially continuous patches
  - Concatenated in the raster scan order

Considers the inherent structure of the face!

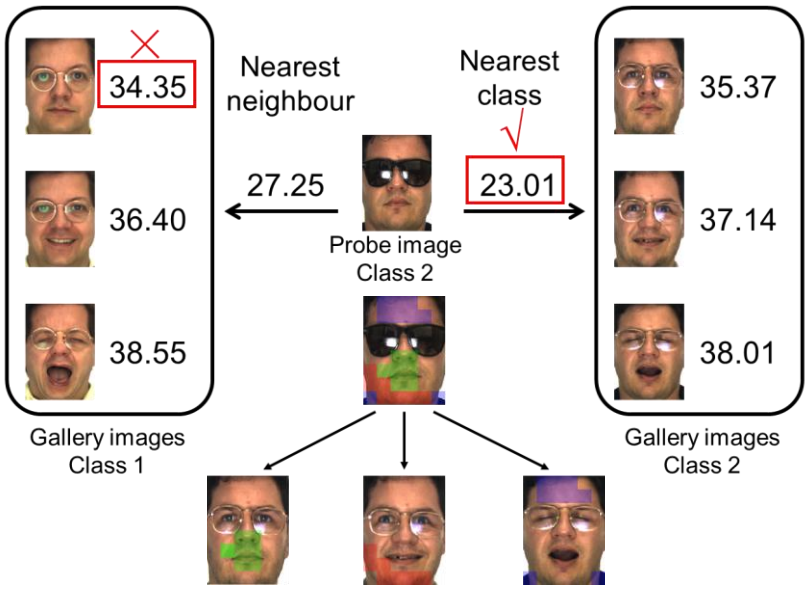
The facial order does not change despite occlusions or imprecise registration

Dynamic *Image-to-Class* Warping

- Matching: *Image-to-Class* distance
  - From a probe sequence to all the gallery sequences of an enrolled class
  - Each patch in the probe sequence can be matched to a patch from different gallery sequences



- key results
  - Outperforms current methods with limited enrolled images per person
  - Achieves the best recognition rate reported on scarf set on the AR database



✓No occlusion detection

✓No data-dependent training