

# A Comparison of Facial Feature Extraction Methods based on Professional Domain Clustering

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# Motivation

- **Question:** Can facial features predict a person's professional talents?
- **Problem:** Research in the social sciences are limited in scalability, consistency, and generalization
- **Solution:** Computational method based on data and face clustering

# Face Clustering

- Clustering is an unsupervised learning technique
- Groups data points into clusters based on their similarities
- Group similar faces together and evaluate the clusters
- The accuracy can determine if facial features are correlated with one's professional domain
- Face clustering is usually composed of 4 steps

## Face Clustering

1. **Face Detection:** Detect the position of the faces in an image and returns the coordinates of a bounding box for each face
2. **Face Alignment:** Find a set of facial landmarks, resize and crop the image to the edges of the landmarks

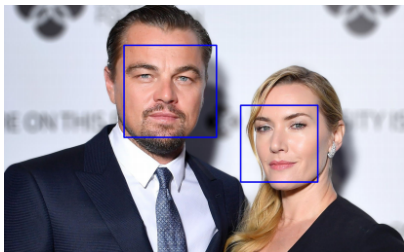


Figure: Face Detection [24]

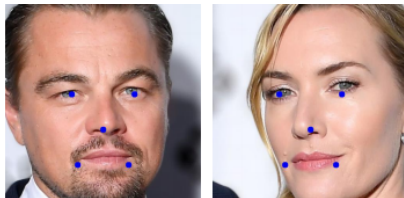


Figure: Face Alignment [24]

## References



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