Face Recognition

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Yale face database

- 165 grayscale images
- 15 persons
- 11 images per person
- Data source: http://vision.ucsd.edu/

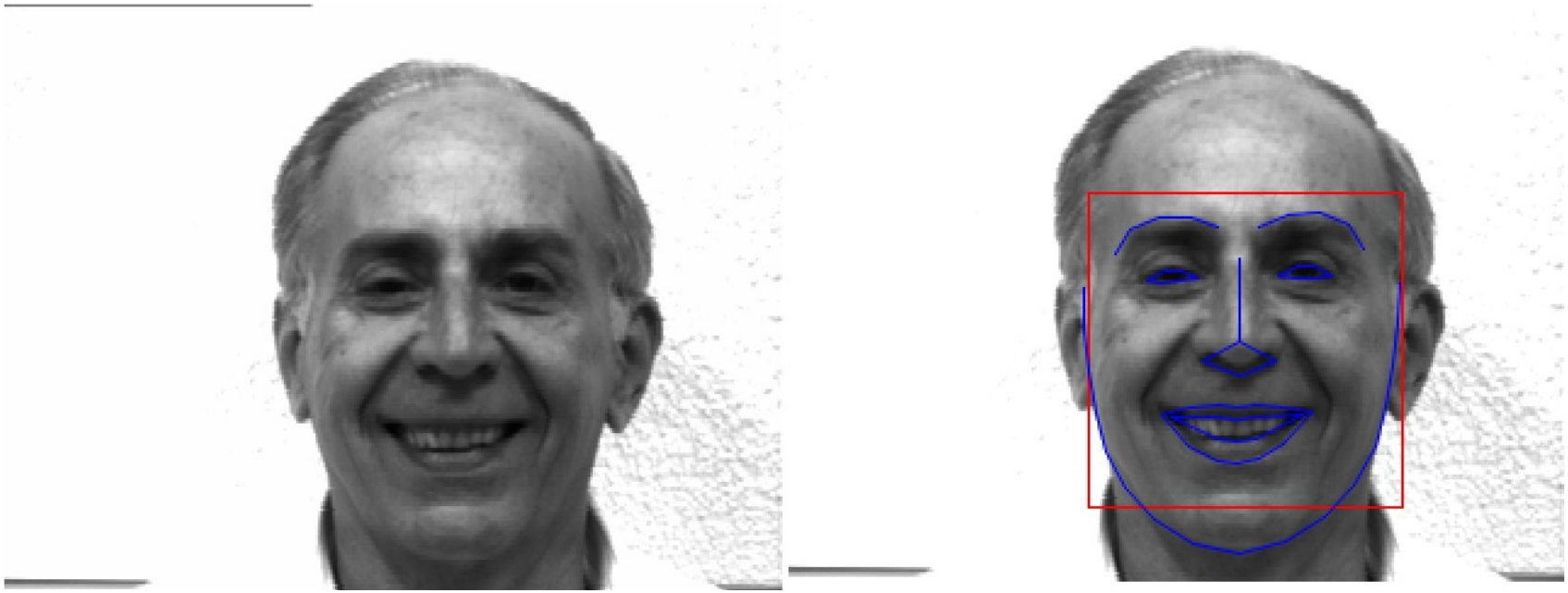
Technologies

- Language: Python3
- Libraries: OpenCV, dlib, numpy, pandas and sklearn

Landmarks Extraction

- get_frontal_face_detector()
- shape_predictor_68_face_landmarks.dat: Pre-trained predictor used

Landmarks Visualization

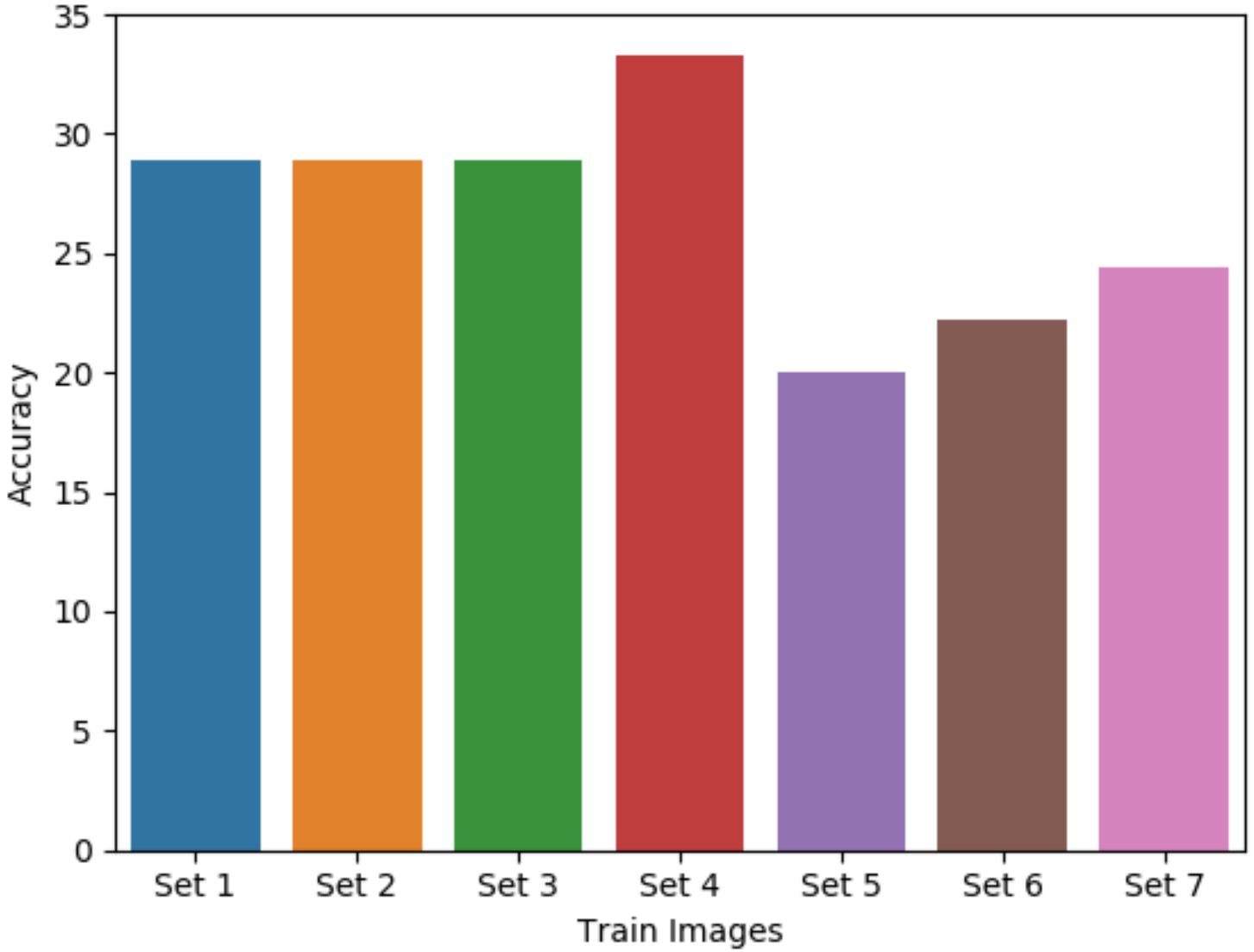


Yale Face Sample

Approach 1

- Representative landmarks as features
- 1-NN using Euclidean distance for classification

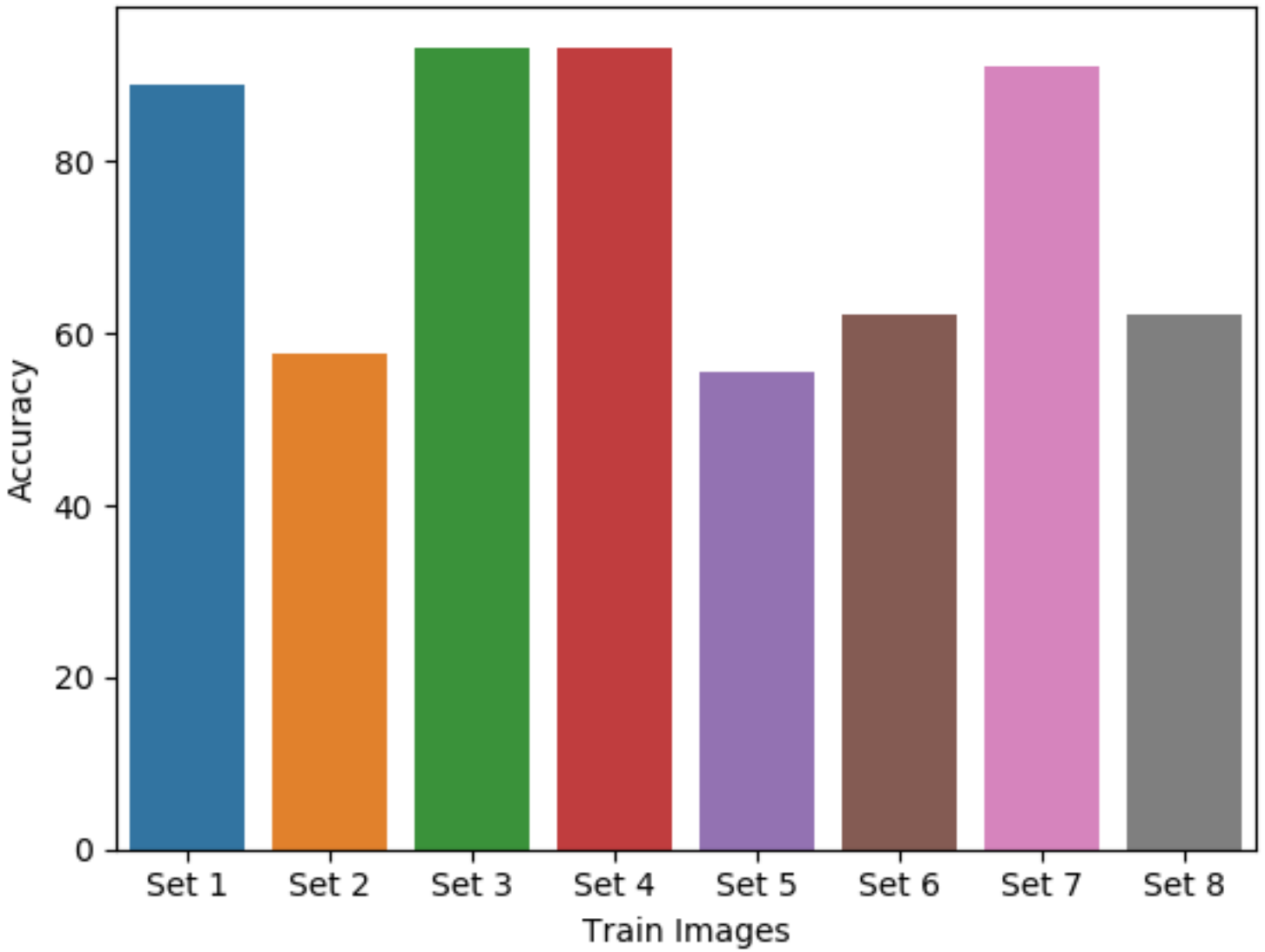
Accuracy Visualization



Approach 2

- Feature extraction using representative landmark
- 1-NN using Euclidean distance for classification

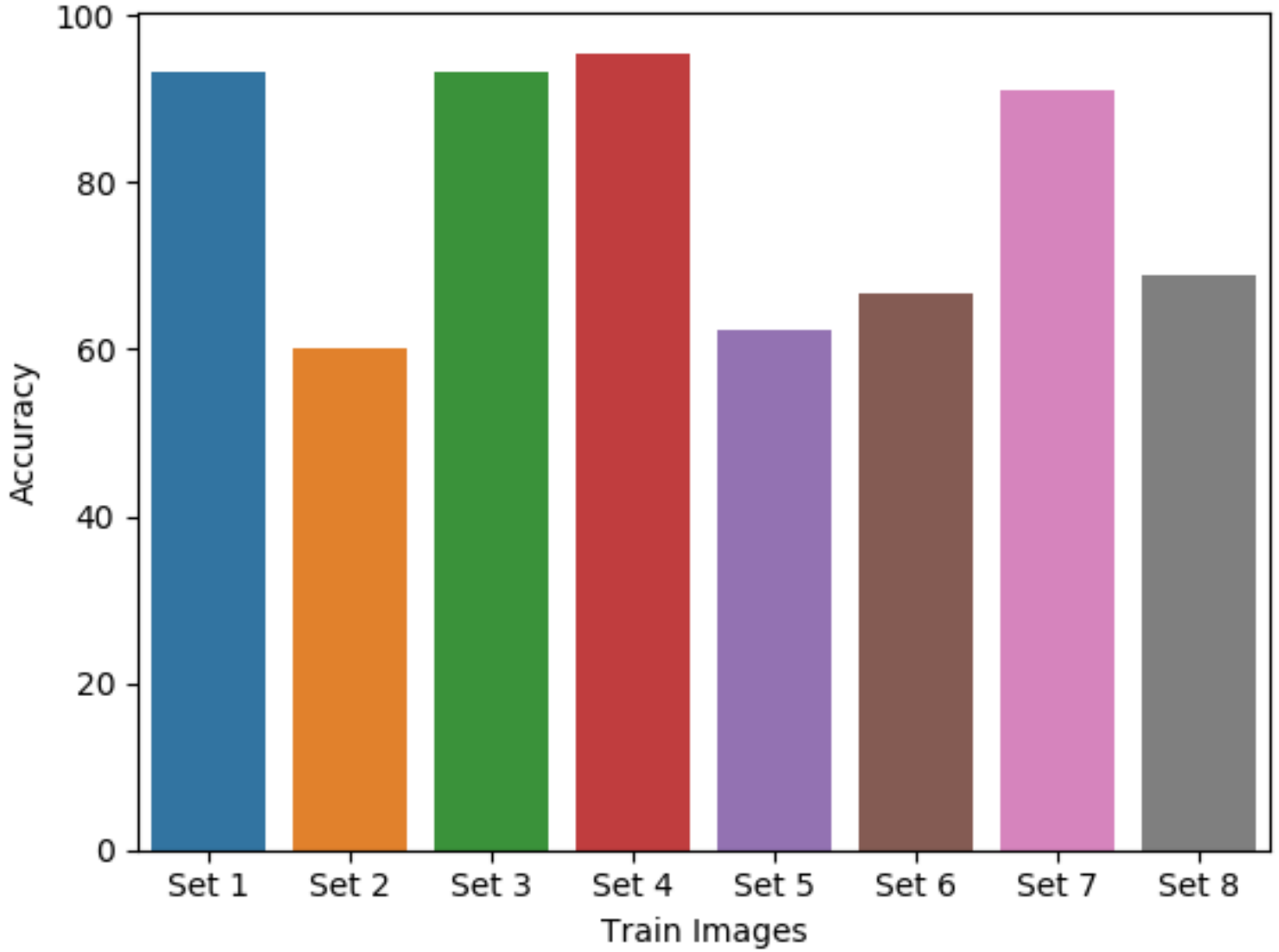
Accuracy Visualization



Approach 3

- Feature extraction using representative landmark
- Support Vector Machine for classification

Accuracy Visualization



Demo

Discussions