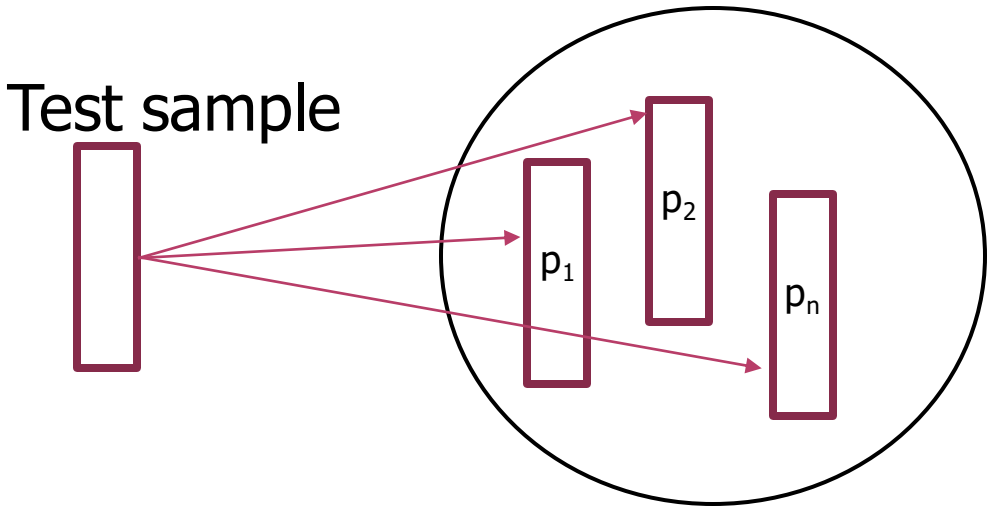
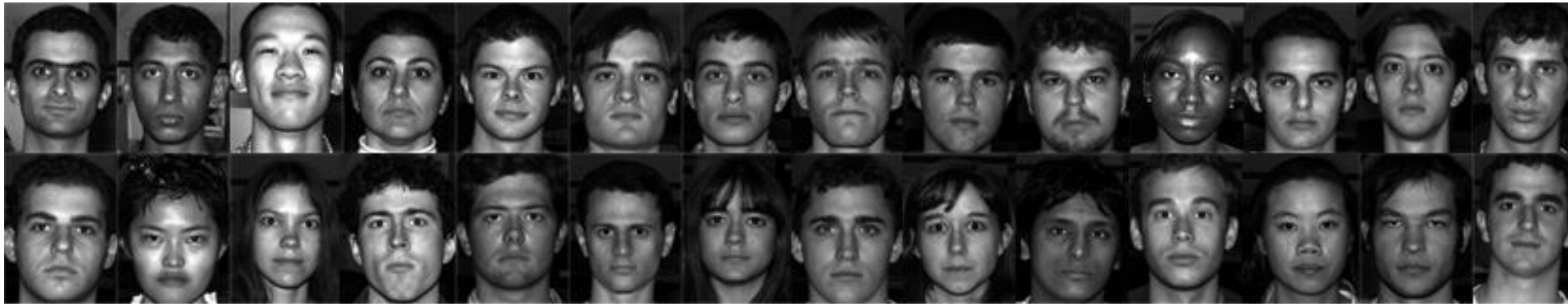
MACHINE LEARNING ASSIGNMENT #1

- Nearest Neighbor Search
  - For the test sample, find the nearest sample in the training set.
  - The nearest neighbor can be found using
    - SAD – sum of absolute distance
    - SSD – sum of square distance
  - Assign the label of the NN to the test sample



FACE RECOGNITION

- The Extended Yale Face Database



- All the images can be downloaded at:
  - Cropped Images (39 persons, 65 images each person)
    - http://vision.ucsd.edu/extyaleb/CroppedYaleBZip/CroppedYale.zip

名稱	類型	壓縮大小	受密碼保護	大小	壓縮比	修改日期
yaleB01	檔案資料夾					2005/3/21 下午 07:13
yaleB02	檔案資料夾					2005/3/21 下午 07:10
yaleB03	檔案資料夾					2005/3/21 下午 07:10
yaleB04	檔案資料夾					2005/3/21 下午 07:10
yaleB05	檔案資料夾					2005/3/21 下午 07:10
yaleB06	檔案資料夾					2005/3/21 下午 07:10
yaleB07	檔案資料夾					2005/3/21 下午 07:10
yaleB08	檔案資料夾					2005/3/21 下午 07:11
yaleB09	檔案資料夾					2005/3/21 下午 07:11
yaleB10	檔案資料夾					2005/3/21 下午 07:11
yaleB11	檔案資料夾					2005/3/21 下午 07:11
yaleB12	檔案資料夾					2005/3/21 下午 07:11

STEPS OF ASSIGNMENT #1

- 1. Read all color images and converted to gray-scale images.
  - Image reading example will be provided
- 2. Split the images into training set / test set
  - First 35 images as training, the rest as testing
- 3. Find NN for each test image
- 4. Calculate the accuracy for NN method.
  - Accuracy = #Correct NN Results/ #Total Test Images

- Deadline: 03/15 11:59p.m