
**Assignment of**

Computer Vision

**Topic**

Image features Detection and Matching

Image Classification

**Submitted to**

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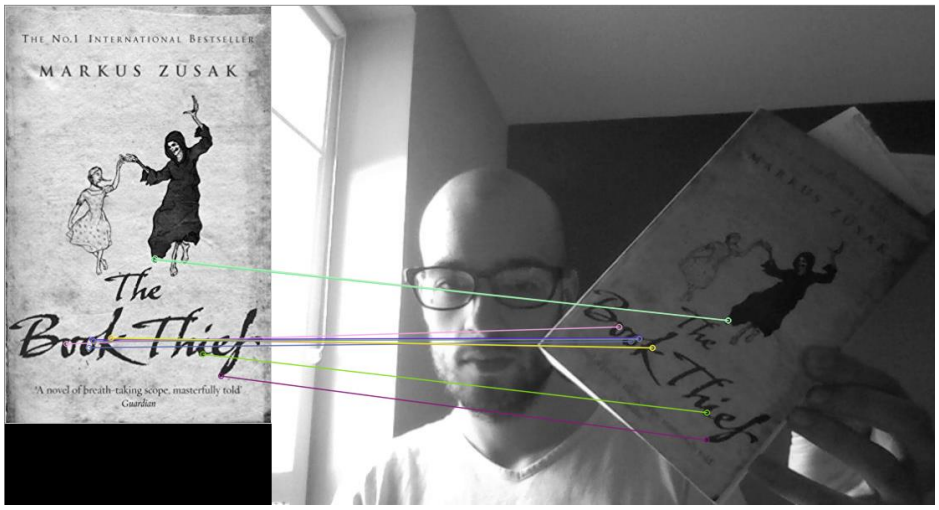
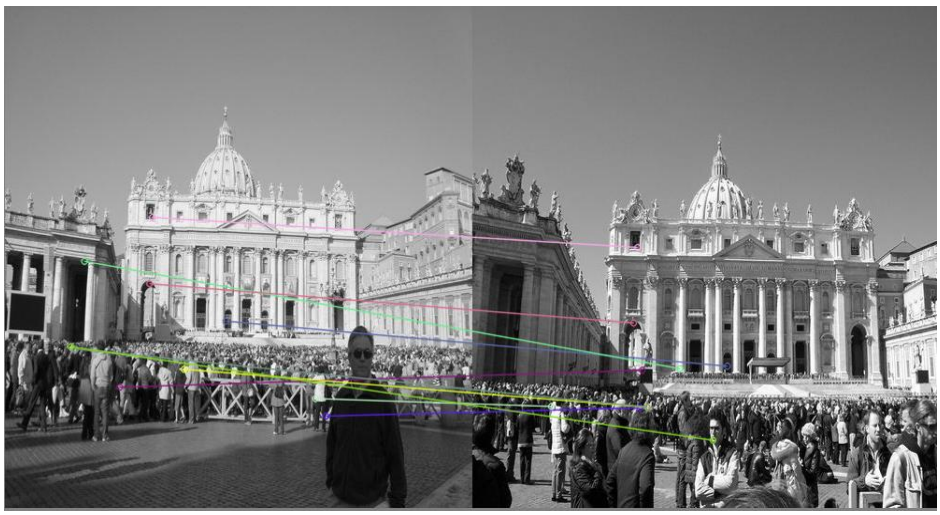
# Task-1: Image Feature Extraction and Matching

- **<u>Oriented FAST and Rotated BRIEF (ORB)</u>**
  - **Set 1**

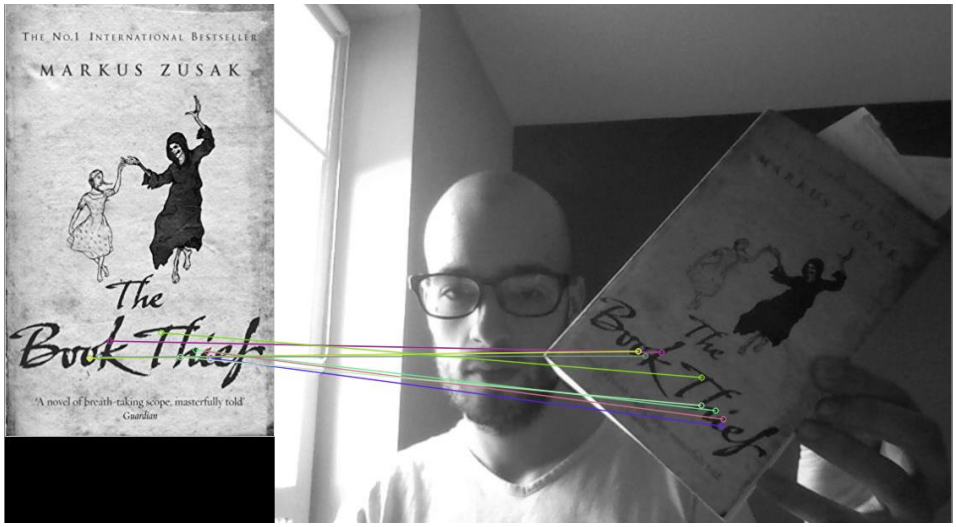



  - **Set 2**



  - **Set 3**

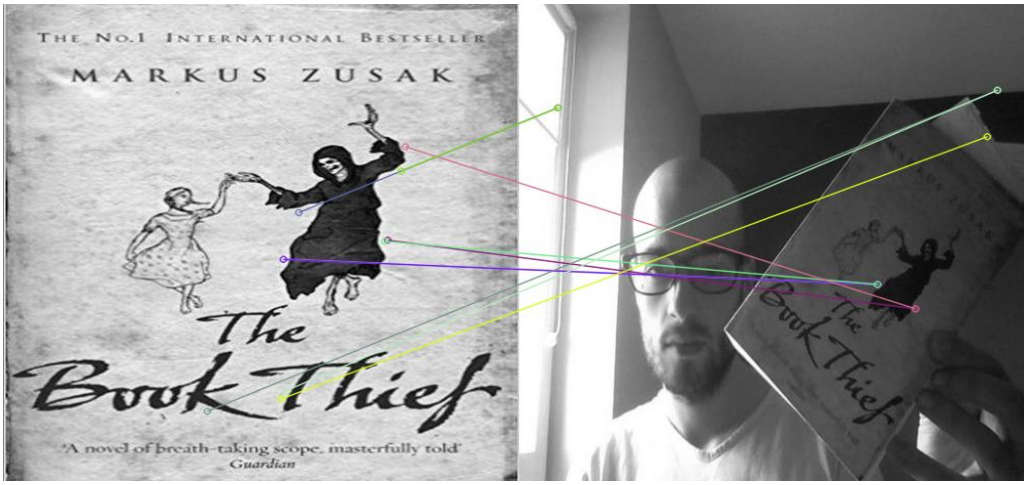
- **<u>Scale Invariant Feature Transform(SIFT)</u>**
  - **Set 1**




  - **Set 2**

- **Set 3**

- **Speeded-Up Robust Features (SURF)**
  - **Set 1**




  - **Set 2**

- **Set 3**

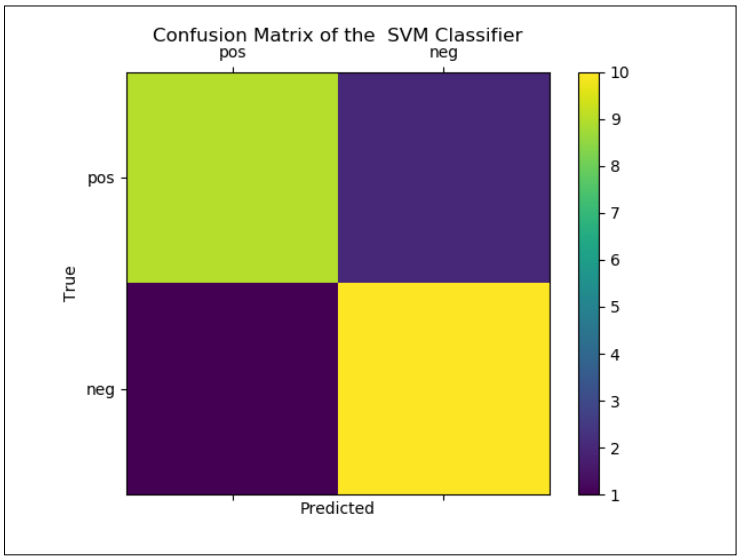
## Task 2: Human Classification / Detection

**i. Quantitative performance measures i.e. F1 Score, Accuracy, True Positive Rate, and False Positive Rates of both classifiers.**

**Results for smaller dataset**

**<u>SVM Classifier</u>**

- **F1 score**
  - 0.8633540372670807
- **Accuracy**
  - 0.8636363636363636
- **Confusion Matrix (True positive rate , True negative rate, False positive rate, False negative rate**
  - [[ 9  2]
    [1 10]]

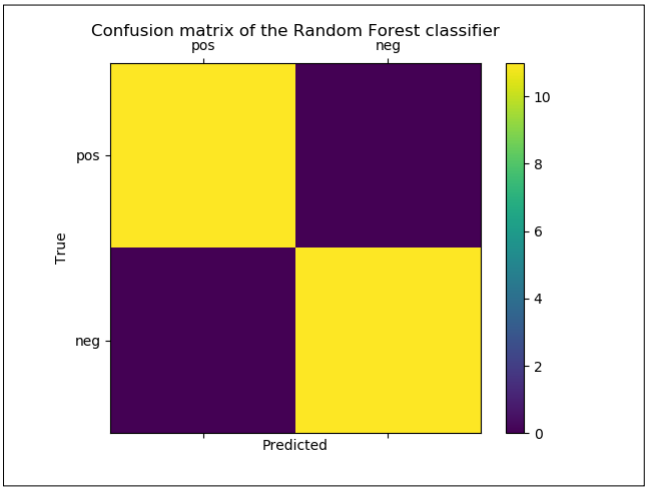



## Random Forest Classifier

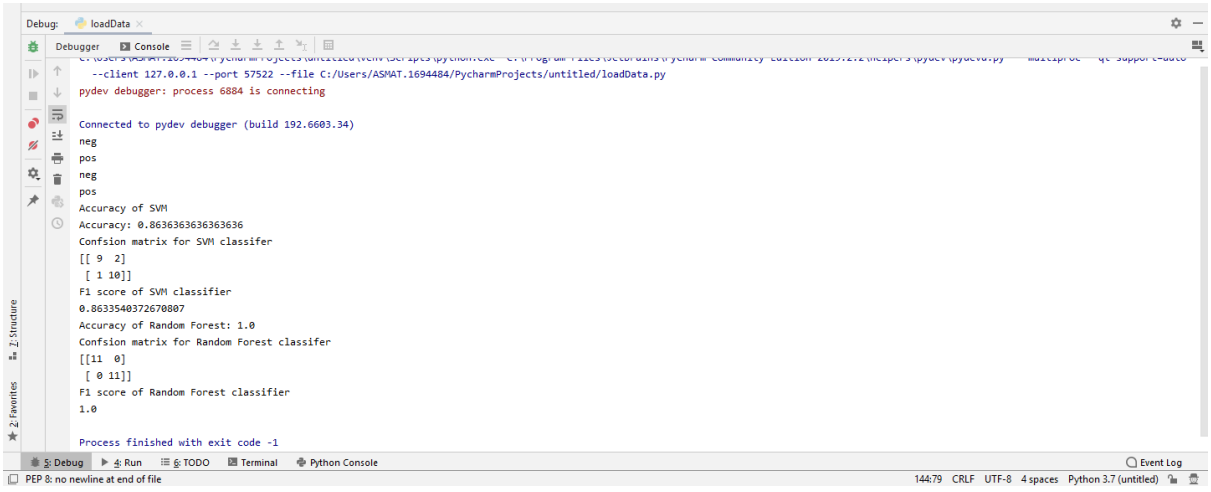
- **F1 score**
  - 1.0

- **Accuracy**
  - 1.0

- **Confusion Matrix (True positive rate , True negative rate, False positive rate, False negative rate**
  - [[11 0]
    [0 11]]




- **Classifier IDE snippet of obtained results**




## ii. Qualitative results i.e. a few of the correctly classified images

## Training Images

## Corresponding Training Labels

Training label: ['neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg']

## Testing Images

## Corresponding Testing labels

Test label: ['neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg', 'neg']

## IDE run results