

# Dataset Introduction GazeCapture

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## File Structure

```
GazeCapture
|
|-Label
|   |-train
|   |-val
|   |-test
|       |-{subject}.label
|
|-Image
    |-{subject}
        |-face
        |-left
        |-right
        |-grid
            |-1.jpg
            |-2.jpg
            | .
            | .
            | .
```

## .label File Format

Each `.label` file contains the data of one subject. Each line contains the data of one image. The first line in `.label` file is the name of contained variables. Variables are separated by space. As for variables contain more than one value. values are separated by `,`.

- **Face** - *string* - path of face image relative to `../Image/` .
- **Left** - *string* - path of left eye image relative to `../Image/` .
- **Right** - *string* - path of right eye image relative to `../Image/` .
- **Grid** - *string* - path of face grid relative to `../Image/` .
- **Xcam,Ycam** - `(2,)` - Physical distance of X,Y axis from POG to camera in centimeters. Same as the original dataset notation.
- **Xdot,Ydot** - `(2,)` - X,Y axis pixel coordinate of POG. Same as the original dataset notation.
- **Device** - *string* - Name of the device used by the subject.

## Getting Start.

You could read the line in `.label` file for reading image data.

Assuming the root path is `/home/GazeCapture`. You could:

```
import os
import cv2

# line; One line in `.label` file.
imroot = '/home/GazeCapture'

face_path = os.path.join(imroot, 'Image', line.split(' ')[0])
left_path = os.path.join(imroot, 'Image', line.split(' ')[1])
right_path = os.path.join(imroot, 'Image', line.split(' ')[2])
grid_path = os.path.join(imroot, 'Image', line.split(' ')[3])

face_image = cv2.imread(face_path)
left_image = cv2.imread(left_path)
right_image = cv2.imread(right_path)
grid_image = cv2.imread(grid_path)

label = line.strip().split(' ')[4].split(",")
label = np.array(label).astype('float')
```