Face recognition

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CONTENTS

Introduction

- **Face recognize : Suzy**

- **Library：face recognition、PIL**

- **Reference：Adam Geitgey- git hub**

Code

- **Load image of Suzy, then recognize it.**

```python
# Load a sample picture and learn how to recognize it.
locate="D:\\python\\face_detection\\"
suzy_image = face_recognition.load_image_file(locate+"suzyjyp.png")
suzy_face_encoding = face_recognition.face_encodings(suzy_image)[0]
```

- **Create arrays of face encodings and names**

```python
known_face_encodings = [
    suzy_face_encoding,
]
known_face_names = [
    "suzy",
]
```

Code

- **Load new unknown image and find all faces and encodings.**

```
# Load an image with an unknown face
unknown_image = face_recognition.load_image_file(locate+"more_people.png")

# Find all the faces and face encodings in the unknown image
face_locations = face_recognition.face_locations(unknown_image)
face_encodings = face_recognition.face_encodings(unknown_image, face_locations)
```

- **Convert the unknown image to a PIL-format image so that we can draw on top of it with the Pillow library**

```
# See http://pillow.readthedocs.io/ for more about PIL/Pillow
pil_image = Image.fromarray(unknown_image)
# Create a Pillow ImageDraw Draw instance to draw with
draw = ImageDraw.Draw(pil_image)
```

Code

- **Loop through each face found in unknown images and compare faces**

```python
for (top, right, bottom, left), face_encoding in zip(face_locations, face_encodings):
    # See if the face is a match for the known face(s)
    matches = face_recognition.compare_faces(known_face_encodings, face_encoding)
```

- **Draw a box and name around and below the face**

```python
# Draw a box around the face using the Pillow module
draw.rectangle(((left, top), (right, bottom)), outline=(0, 0, 500))

# Draw a label with a name below the face
text_width, text_height = draw.textsize(name)
draw.rectangle(((left, bottom - text_height), (right, bottom)), fill=(0, 0, 255), outline=(0, 0, 255))
draw.text((left + 6, bottom - text_height - 5), name, fill=(255, 255, 255, 255))
```

Result

Assignment

- **Discussion & Coding: all members**

- **Presentation: 婉婷、芝儀**

- **PPT： 雯惠**

THANK YOU !!