A PRETRAINED MODEL FOR FACE RECOGNITION

A Pretrained Model for Face Recognition

Key Features:

    • Embeddings: Maps facial images to a 128-dimensional embedding space.

    • High Accuracy: Achieves state-of-the-art performance on face recognition benchmarks.

    • Versatility: Can be used for face verification, recognition, and clustering.

Benefits:

    • **Efficient:** Compact embeddings make it suitable for real-time applications.

    • **Robust:** Performs well under varying lighting conditions, angles, and occlusions.

    • **Scalable:** Can handle large-scale face recognition tasks.

Usage:

- **TensorFlow and Keras:** FaceNet models can be implemented using TensorFlow and Keras.

- **Example Code:**

- import tensorflow as tf

- import numpy as np

```python
# Load the pretrained FaceNet model
model = tf.keras.models.load_model('facenet_keras.h5')
# Preprocess the image
def preprocess_image(image_path):
    img = tf.keras.preprocessing.image.load_img(image_path, target_size=(160, 160))
    img = tf.keras.preprocessing.image.img_to_array(img)
    img = np.expand_dims(img, axis=0)
    img = tf.keras.applications.mobilenet.preprocess_input(img)
    return img
# Compute the embedding
img = preprocess_image('path_to_your_image.jpg')
embedding = model.predict(img)
```

Resources and Links:

- Google Research Blog: FaceNet: A Unified Embedding for Face Recognition and Clustering

- https://ai.googleblog.com/2015/06/facenet-unified-embedding-for-face.html

- TensorFlow Documentation: FaceNet in TensorFlow

- https://www.tensorflow.org/versions/r1.15/api_docs/python/tf/keras/applications/FaceNet

- GitHub Repository: FaceNet Implementation

- https://github.com/davidsandberg/facenet