Summary of Final Project

1. Introduction

This project designs and implements a face recognition system based on Python language, which includes six functions: find faces, find landmarks, makeup features, obtain encodings, recognize face and track targets. In addition, the practical graphical user interface is an important part of improving the system. The system is implemented through 10 underlying logic functions, 6 functional module files such as recognize face and track targets, and 7 interface classes including one main interface and six sub-functional interfaces, which are simple but powerful.

2. Functions

Find Faces: Input a picture, it will help you find all the faces in this picture. The program will display two images, including the original image and another image with a red rectangle on each face.
Find Landmarks: Input a picture, it will help you find all landmarks for each face in this picture. The program will display two images, including the original image and another image with landmarks on each face.
Makeup Features: Input a picture, it will help you makeup features for each face in this picture. The program will display two images, including the original image and another image with simple makeups on each face.
Obtain Encodings: Input your name, it will help you write face encodings into a name.csv file. The program will open the camera and you can tap “S” to save encodings. You can also tap “Q” to quit at any time.
Recognize Face: Input a picture, it will help you recognize this person in a build-in group photo. The program will display two images, including the original group photo and another with a rectangle on that person.
Track Targets: Input a .cvs file, it will help you dynamically recognize this person and track targets, including faces, landmarks, names, etc. The program will open the camera and you can tap “Q” to quit at any time.

3. Summary

At present, the application of face recognition includes digital camera, character album, access control system, etc. Face recognition technology and its market are vigorously developing all over the world!