

```
1 # 학습용 얼굴 이미지 데이터 생성
2 import cv2,os
3
4 face_cascade = cv2.CascadeClassifier(cv2.data.harcascades + 'haarcascade_frontalface_default.xml')
5
6 cap = cv2.VideoCapture(0)
7 user_id = input("Enter User ID: ")
8 count = 0
9
10 os.makedirs("dataset", exist_ok=True)
11
12 while True:
13     ret, frame = cap.read()
14     if not ret:
15         break
16
17     gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
18     faces = face_cascade.detectMultiScale(gray, scaleFactor=1.2, minNeighbors=5)
19
20     for (x, y, w, h) in faces:
21         count += 1
22         cv2.imwrite(f"dataset/User.{user_id}.{count}.jpg", gray[y:y + h, x:x + w])
23         cv2.rectangle(frame, (x, y), (x + w, y + h), (255, 0, 0), 2)
24
25     cv2.imshow("Capturing Faces", frame)
26
27     if cv2.waitKey(1) & 0xFF == ord('q') or count >= 50: # 50장 수집 후 종료
28         break
29
30 cap.release()
31 cv2.destroyAllWindows()
32
```