

# Gesture Recognition Issue Solution (App Control)

Turn on the robotic arm and connect to it using the terminal.

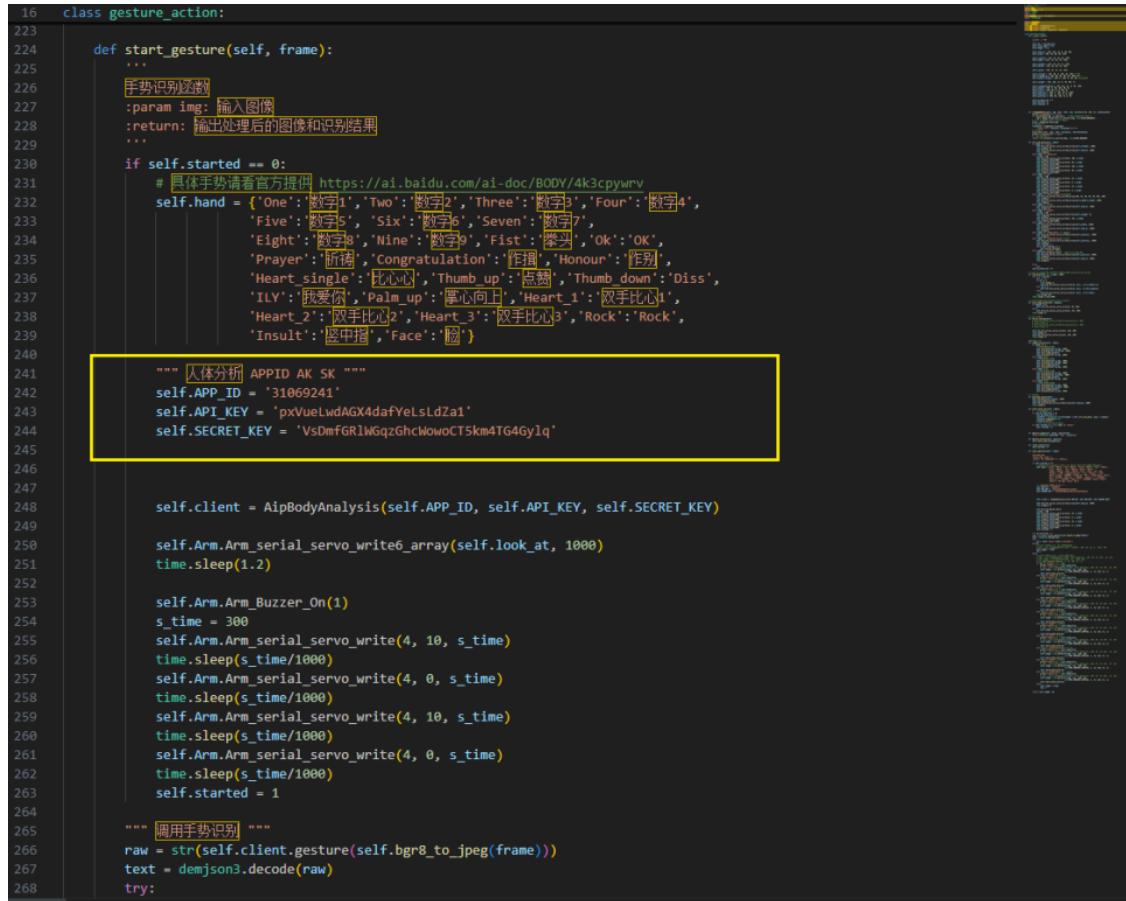
## I. Modify the Baidu Gesture Recognition APP\_ID information for gesture actions.

1. Open the gesture action file:

```
nano /home/jetson/colcon_ws/src/dofbot_gesture/gesture_action.py
```

2. Scroll down to the `start_gesture` function, find the APP\_ID information, and replace it with your own Baidu ID information. For instructions on how to apply for an ID, please refer to the course documentation for [Gesture Recognition]. Overseas users who cannot access the Baidu website can contact technical support for assistance.

3. Press Ctrl+S to save, then Ctrl+X to exit.



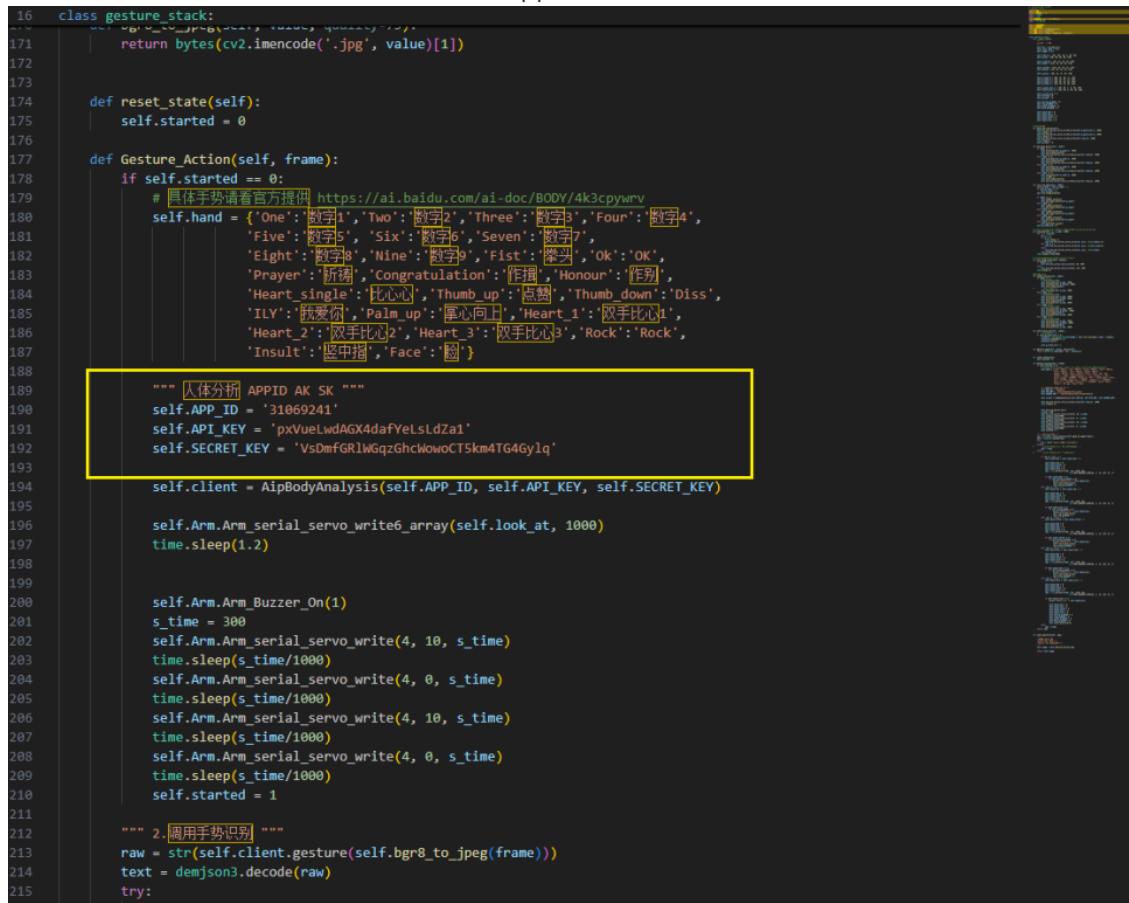
```
16     class gesture_action:
17
18         def start_gesture(self, frame):
19             ...
20
21             手势识别函数
22             :param img: 输入图像
23             :return: 输出处理后的图像和识别结果
24             ...
25
26             if self.started == 0:
27                 # 具体手势请看官方提问 https://ai.baidu.com/ai-doc/BODY/4k3cpwyrv
28                 self.hand = { 'One': '数字1', 'Two': '数字2', 'Three': '数字3', 'Four': '数字4',
29                               'Five': '数字5', 'Six': '数字6', 'Seven': '数字7',
30                               'Eight': '数字8', 'Nine': '数字9', 'Fist': '拳头', 'OK': 'OK',
31                               'Prayer': '祈祷', 'Congratulation': '乍得', 'Honour': '乍得',
32                               'Heart_single': '比心心', 'Thumb_up': '点赞', 'Thumb_down': 'Diss',
33                               'ILY': '我爱你', 'Palm_up': '掌心向上', 'Heart_1': '双手比心1',
34                               'Heart_2': '双手比心2', 'Heart_3': '双手比心3', 'Rock': 'Rock',
35                               'Insult': '竖中指', 'Face': '脸' }
36
37             """
38                 人体分析 APPID AK SK
39             """
40             self.APP_ID = '31069241'
41             self.API_KEY = 'pxvueLwdAGX4dafYeLsldZa1'
42             self.SECRET_KEY = 'VsDmfGRlWgQzGhcWoWoCT5km4TG4Gylq'
43
44
45
46
47
48             self.client = AipBodyAnalysis(self.APP_ID, self.API_KEY, self.SECRET_KEY)
49
50             self.Arm.Arm_serial_servo_write6_array(self.look_at, 1000)
51             time.sleep(1.2)
52
53             self.Arm.Arm_Buzzer_On(1)
54             s_time = 300
55             self.Arm.Arm_serial_servo_write(4, 10, s_time)
56             time.sleep(s_time/1000)
57             self.Arm.Arm_serial_servo_write(4, 0, s_time)
58             time.sleep(s_time/1000)
59             self.Arm.Arm_serial_servo_write(4, 10, s_time)
60             time.sleep(s_time/1000)
61             self.Arm.Arm_serial_servo_write(4, 0, s_time)
62             time.sleep(s_time/1000)
63             self.started = 1
64
65             """
66                 调用手势识别
67             """
68             raw = str(self.client.gesture(self.bgr8_to_jpeg(frame)))
69             text = demjson3.decode(raw)
70             try:
```

## II. Modify the Baidu Gesture Recognition APP\_ID information for gesture stacking.

1. Open the gesture stacking file:

```
nano /home/jetson/colcon_ws/src/arm_gesture_stacking/gesture_stack.py
```

2. Scroll down to the `Gesture_Action` function, find the APP\_ID information, and replace it with your own Baidu ID information. For instructions on how to apply for an ID, please refer to the course documentation for [Gesture Recognition]. Overseas users who cannot access the Baidu website can contact technical support for assistance.



```
16     class gesture_stack:
17         def __init__(self):
18             self.bgr8_to_jpeg = cv2.imencode('.jpg', np.zeros((1,1), dtype=np.uint8))
19             self.value = np.zeros((1,1), dtype=np.uint8)
20             self.quality = 75
21             self.frame = np.zeros((1,1), dtype=np.uint8)
22
23             self.reset_state()
24
25         def reset_state(self):
26             self.started = 0
27
28         def Gesture_Action(self, frame):
29             if self.started == 0:
30                 # 请往手势请看官方提供: https://ai.baidu.com/ai-doc/BODY/4k3cpvwrw
31                 self.hand = {'One': '数字1', 'Two': '数字2', 'Three': '数字3', 'Four': '数字4',
32                             'Five': '数字5', 'Six': '数字6', 'Seven': '数字7',
33                             'Eight': '数字8', 'Nine': '数字9', 'Fist': '拳头', 'OK': 'OK',
34                             'Prayer': '祈祷', 'Congratulation': '作揖', 'Honour': '作揖',
35                             'Heart_single': '比心', 'Thumb_up': '点赞', 'Thumb_down': 'Diss',
36                             'ILY': '我爱你', 'Palm_up': '掌心向上', 'Heart_1': '双手比心1',
37                             'Heart_2': '双手比心2', 'Heart_3': '双手比心3', 'Rock': 'Rock',
38                             'Insult': '竖中指', 'Face': '脸'}
39
40             """ 人体分析 APPID AK SK """
41             self.APP_ID = '31869241'
42             self.API_KEY = 'pxVueLwdAGX4dafYeLsldZa1'
43             self.SECRET_KEY = 'VsDmfGRlwGqzGhcWoWoCT5km4TGIGy1q'
44
45             self.client = AipBodyAnalysis(self.APP_ID, self.API_KEY, self.SECRET_KEY)
46
47             self.Arm.Arm_serial_servo_write6_array(self.look_at, 1000)
48             time.sleep(1.2)
49
50             self.Arm.Arm_Buzzer_On(1)
51             s_time = 300
52             self.Arm.Arm_serial_servo_write(4, 10, s_time)
53             time.sleep(s_time/1000)
54             self.Arm.Arm_serial_servo_write(4, 0, s_time)
55             time.sleep(s_time/1000)
56             self.Arm.Arm_serial_servo_write(4, 10, s_time)
57             time.sleep(s_time/1000)
58             self.Arm.Arm_serial_servo_write(4, 0, s_time)
59             time.sleep(s_time/1000)
60             self.started = 1
61
62             """ 2. 调用手势识别 """
63             raw = str(self.client.gesture(self.bgr8_to_jpeg(frame)))
64             text = demjson3.decode(raw)
65             try:
```

3. Press Ctrl+S to save, then Ctrl+X to exit.

**Note: Both files must be modified to contain the same Baidu gesture recognition APP\_ID information. Compilation is required after making the changes.**