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1  #image collection and labeling: FOUND HERE:
   https://github.com/nicknochnack/TFODCourse/blob/main/1.%20Image%20Collection.ipynb
2
3  #!/usr/bin/env python
4  # coding: utf-8
5
6  # # 1. Import Dependencies
7
8  # In[1]:
9
10
11  get_ipython().system('pip install opencv-python')
12
13
14  # In[2]:
15
16
17  # Import opencv
18
19  import cv2
20
21  # Import uuid
22  import uuid
23
24  # Import Operating System
25  import os
26
27  # Import time
28  import time
29
30
31  # # 2. Define Images to Collect
32
33  # In[3]:
34
35
36  labels = ['LysSetting']
37  number_imgs = 4
38
39
40  # # 3. Setup Folders
41
42  # In[4]:
43
44
45  IMAGES_PATH = os.path.join('Tensorflow', 'workspace', 'images', 'collectedimages')
46
47
48  # In[5]:
49
50
```

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51 if not os.path.exists(IMAGES_PATH):
52     if os.name == 'posix':
53         get_ipython().system('mkdir -p {IMAGES_PATH}')
54     if os.name == 'nt':
55         get_ipython().system('mkdir {IMAGES_PATH}')
56 for label in labels:
57     path = os.path.join(IMAGES_PATH, label)
58     if not os.path.exists(path):
59         get_ipython().system('mkdir {path}')
60
61
62 # # 4. Capture Images
63
64 # In[5]:
65
66
67 for label in labels:
68     cap = cv2.VideoCapture(0)
69     print('Collecting images for {}'.format(label))
70
71
72
73
74     for imgnum in range(number_imgs):
75         input("Press tastatur for å ta bilde")
76         print('Collecting image {}'.format(imgnum))
77         ret, frame = cap.read()
78         imgname = os.path.join(IMAGES_PATH, label, label+'.'+'{}'.jpg'.format(str(uuid.uuid1()))))
79         cv2.imwrite(imgname, frame)
80         cv2.imshow('frame', frame)
81
82
83         if cv2.waitKey(1) & 0xFF == ord('q'):
84             break
85 cap.release()
86 cv2.destroyAllWindows()
87
88
89 # # 5. Image Labelling
90
91 # In[6]:
92
93
94 get_ipython().system('pip install --upgrade pyqt5 lxml')
95
96
97 # In[7]:
98
99
100 LABELIMG_PATH = os.path.join('Tensorflow', 'labelimg')
101

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102
103 # In[8]:
104
105
106 if not os.path.exists(LABELIMG_PATH):
107     get_ipython().system('mkdir {LABELIMG_PATH}')
108     get_ipython().system('git clone https://github.com/tzutalin/labelImg {LABELIMG_PATH}')
109
110
111 # In[9]:
112
113
114 if os.name == 'posix':
115     get_ipython().system('make qt5py3')
116 if os.name == 'nt':
117     get_ipython().system('cd {LABELIMG_PATH} && pyrcc5 -o libs/resources.py resources.qrc')
118
119
120 # In[10]:
121
122
123 get_ipython().system('cd {LABELIMG_PATH} && python labelImg.py')
124
125
126 # # 6. Move them into a Training and Testing Partition
127
128 # # OPTIONAL - 7. Compress them for Colab Training
129
130 # In[ ]:
131
132
133 TRAIN_PATH = os.path.join('Tensorflow', 'workspace', 'images', 'train')
134 TEST_PATH = os.path.join('Tensorflow', 'workspace', 'images', 'test')
135 ARCHIVE_PATH = os.path.join('Tensorflow', 'workspace', 'images', 'archive.tar.gz')
136
137
138 # In[ ]:
139
140
141 get_ipython().system('tar -czf {ARCHIVE_PATH} {TRAIN_PATH} {TEST_PATH}')
142
143
144 # In[ ]:
145
146
147
```