

atividade-7

January 8, 2018

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In [1]: import os
        from collections import Counter
        import multiprocessing as mp
        import asyncio
        import itertools

        import cv2
        import numpy as np
        import imutils
        import sklearn

        from imutils import paths
        from skimage import exposure
        from skimage import feature
        from skimage import measure
        from sklearn.neighbors import KNeighborsClassifier

        import pylab as plt
%matplotlib inline

In [2]: def exibir_imagens(list_process=None):
        if isinstance(list_process, list):
            for obj in list_process:
                if obj.get('origin') and not obj.get('X'):
                    obj = obj.get('origin')
                    plt.figure()
                    plt.title(s=obj.get('title', ''))
                    plt.xticks(obj.get('xticks', []))
                    plt.yticks(obj.get('yticks', []))
                    plt.imshow(X=obj.get('X'), cmap=obj.get('cmap', None))
                    plt.tight_layout()
                elif obj.get('gray') and not obj.get('X'):
                    obj = obj.get('gray')
                    plt.figure()
                    plt.title(s=obj.get('title', ''))
                    plt.xticks(obj.get('xticks', []))
                    plt.yticks(obj.get('yticks', []))
                    plt.imshow(X=obj.get('X'), cmap=obj.get('cmap', None))
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        plt.tight_layout()
    else:
        plt.figure()
        plt.title(s=obj.get('title', ''))
        plt.xticks(obj.get('xticks', []))
        plt.yticks(obj.get('yticks', []))
        plt.imshow(X=obj.get('X'), cmap=obj.get('cmap', None))
        plt.tight_layout()
else:
    obj = list_process
    if obj.get('origin') and not obj.get('X'):
        obj = obj.get('origin')
        plt.figure()
        plt.title(s=obj.get('title', ''))
        plt.xticks(obj.get('xticks', []))
        plt.yticks(obj.get('yticks', []))
        plt.imshow(X=obj.get('X'), cmap=obj.get('cmap', None))
        plt.tight_layout()
    elif obj.get('gray') and not obj.get('X'):
        obj = obj.get('gray')
        plt.figure()
        plt.title(s=obj.get('title', ''))
        plt.xticks(obj.get('xticks', []))
        plt.yticks(obj.get('yticks', []))
        plt.imshow(X=obj.get('X'), cmap=obj.get('cmap', None))
        plt.tight_layout()
    else:
        plt.figure()
        plt.title(s=obj.get('title', ''))
        plt.xticks(obj.get('xticks', []))
        plt.yticks(obj.get('yticks', []))
        plt.imshow(X=obj.get('X'), cmap=obj.get('cmap', None))
        plt.tight_layout()

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In [3]: path = os.getcwd() + os.sep
png = path + '../../../../../db_images/png/captcha.png'
jpeg = path + '../../../../../db_images/jpeg/captcha.jpeg'
obama = path + '../../../../../db_aulas/Imagens/obama.jpeg'
obama_knn = path + '../../../../../db_aulas/Imagens/1200px-President_Barrack_Obama.jpg'
path_images = [obama, obama_knn]

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In [4]: images = []
for path_img in path_images:
    it = {}
    img = cv2.imread(path_img)
    img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
    it.update({
        'origin': {

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        'title': 'Original',
        'X': img}
    }
)

gray = cv2.cvtColor(img, cv2.COLOR_RGB2GRAY)
it.update({
    'gray': {
        'title': 'Gray',
        'X': gray}
})
)

images.append(it)
```

In [5]: exibir_imagens(images)



Original



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In [6]: kp_imgs = []
images = images.copy()

for obj in images:
    it = obj.get('origin').copy()
    img = it.get('X').copy()

    #     kwargs = {'image': img,
    #               'width': None,
    #               'height': None,
    #               'inter': 3
    #             }

    #     img = imutils.resize(**kwargs)

sift = cv2.xfeatures2d.SIFT_create(nfeatures=5,
                                   nOctaveLayers=3,
                                   contrastThreshold=0.04,
                                   edgeThreshold=10,
                                   sigma=1.6)

keypoints, descriptors = sift.detectAndCompute(img, None)
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kp = sorted(keypoints, key=lambda x: x.response)[-5::]

draw_keypoints = dict(image=img,
                      keypoints=kp,
                      outImage=None,
                      color=(0,255,0),
                      flags=cv2.DRAW_MATCHES_FLAGS_DRAW_RICH_KEYPOINTS)

img_draw_keypoints = cv2.drawKeypoints(**draw_keypoints)
it = {}
it.update({'X': img_draw_keypoints, 'kp': kp, 'des': descriptors, 'o': img})
kp_imgs.append(it)
```

In [7]: exibir_imagens(kp_imgs)





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In [8]: objs = [kp_imgs[0].copy(), kp_imgs[0].copy()]

bf_matcher = dict(normType=cv2.NORM_L2SQR,
                  crossCheck=False)

knn_match = dict(queryDescriptors=objs[0].get('des'),
                  trainDescriptors=objs[1].get('des'),
                  k=2)

bf = cv2.BFMatcher_create(**bf_matcher)
bf.clear()

matches = bf.knnMatch(**knn_match)

good = [[m] for m, n in matches if m.distance < 0.75*n.distance]

draw_matches_knn = dict(img1=objs[0].get('o'),
                       keypoints1=objs[0].get('kp'),
                       img2=objs[1].get('o'),
                       keypoints2=objs[1].get('kp'),
                       matches1to2=good,
                       outImg=None,
                       flags=2)
```

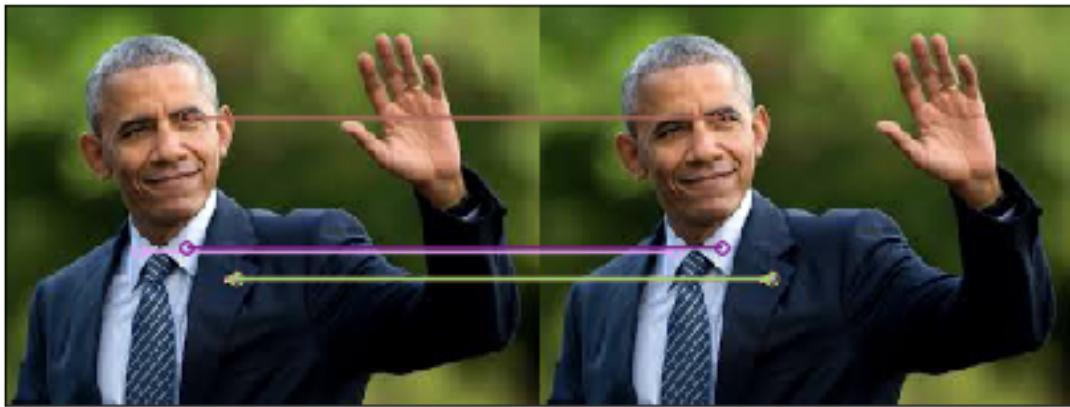
```

img_draw_matches_knn = cv2.drawMatchesKnn(**draw_matches_knn)

exibir_imagens({'X': img_draw_matches_knn, 'title': 'Matches Knn'})

```

Matches Knn



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In [9]: objs = [kp_imgs[0].copy(), kp_imgs[0].copy()]

index_params = dict(algorithm=0,
                     trees=5)

search_params = dict(checks=50)

flann = cv2.FlannBasedMatcher(index_params, search_params)
flann.clear()

knn_match = dict(queryDescriptors=objs[0].get('des'),
                  trainDescriptors=objs[1].get('des'),
                  k=2)

matches = flann.knnMatch(**knn_match)

matchesMask = [[0, 0] for _ in matches]

for i,(m,n) in enumerate(matches):
    if m.distance < 0.75*n.distance:
        matchesMask[i]=[1, 0]

draw_matches_knn = dict(img1=objs[0].get('o'),
                       keypoints1=objs[0].get('kp'),
                       img2=objs[1].get('o'),
                       keypoints2=objs[1].get('kp'),

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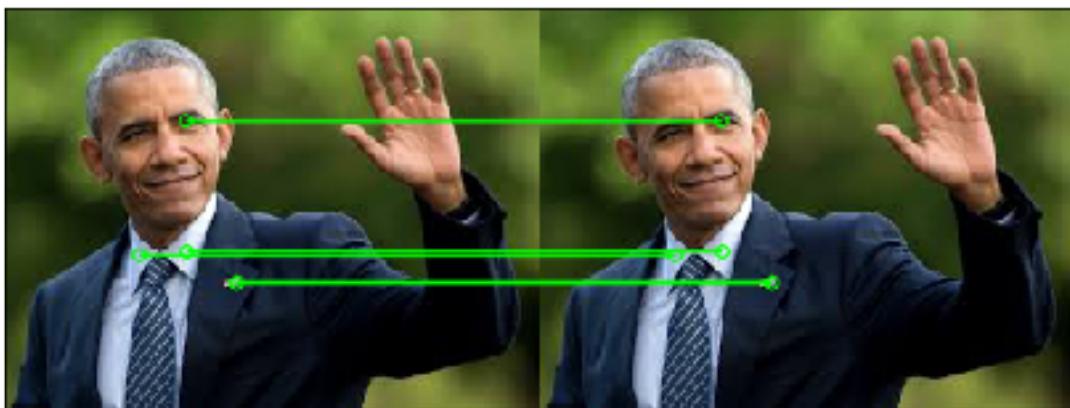
        matches1to2=matches,
        outImg=None,
        matchColor=(0,255,0),
        singlePointColor=(255,0,0),
        matchesMask=matchesMask,
        flags=2)

img_draw_matches_knn = cv2.drawMatchesKnn(**draw_matches_knn)

exibir_imagens({'X': img_draw_matches_knn, 'title': 'Matches Knn'})

```

Matches Knn



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In [10]: def sift_detectar(args):
    data = []
    labels = []

    sift = cv2.xfeatures2d.SIFT_create(nfeatures=0,
                                       nOctaveLayers=30,
                                       contrastThreshold=0.04,
                                       edgeThreshold=10,
                                       sigma=1.6)

    for imagePath in paths.list_images(args["training"]):
        make = imagePath.split("/")[-2]

        image = cv2.imread(imagePath)
        image = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
        gray = cv2.cvtColor(image, cv2.COLOR_RGB2GRAY)
        r,g,b = cv2.split(image)

        (_, des_img) = sift.detectAndCompute(image, None)
        (_, des_gray) = sift.detectAndCompute(gray, None)

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(_, des_r) = sift.detectAndCompute(r, None)
(_, des_g) = sift.detectAndCompute(g, None)
(_, des_b) = sift.detectAndCompute(b, None)

vectors = np.array([des_img.ravel(),
                   des_gray.ravel(),
                   des_r.ravel(),
                   des_g.ravel(),
                   des_b.ravel()])

for des in vectors:
    (H, _) = np.histogram(des.ravel(), bins=range(0, 255))

    eps = 1e-7
    H = H.astype("float")
    H /= (H.sum() + eps)

    # update the data and labels
    data.append(H)
    labels.append(make)

# "train" the nearest neighbors classifier
print("[INFO] training classifier...")
model = KNeighborsClassifier(n_neighbors=1)
model.fit(data, labels)
print("[INFO] evaluating...")

data_preds = []
labels_test = []

for imagePath in paths.list_images(args["test"]):
    make = imagePath.split("/")[-2]

    image = cv2.imread(imagePath)
    image = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
    gray = cv2.cvtColor(image, cv2.COLOR_RGB2GRAY)
    r,g,b = cv2.split(image)

    (_, des_img) = sift.detectAndCompute(image, None)
    (_, des_gray) = sift.detectAndCompute(gray, None)
    (_, des_r) = sift.detectAndCompute(r, None)
    (_, des_g) = sift.detectAndCompute(g, None)
    (_, des_b) = sift.detectAndCompute(b, None)

    vectors = np.array([des_img.ravel(),
                       des_gray.ravel(),
                       des_r.ravel(),
                       des_g.ravel(),

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        des_b.ravel()])
for des in vectors:
    (H, _) = np.histogram(des.ravel(), bins=range(0, 255))

    eps = 1e-7
    H = H.astype("float")
    H /= (H.sum() + eps)

pred = model.predict(H.reshape(1, -1))[0]

data_preds.append(pred)
labels_test.append(make)

cv2.putText(image, pred.title(), (10, 35), cv2.FONT_HERSHEY_SIMPLEX, 1.0, (0,
obj = {'X': image}

exibir_imagens(obj)

accuracy_score = sklearn.metrics.accuracy_score(y_true=labels_test,y_pred=data_pred)
print('Accuracy: {}'.format(accuracy_score))

In [11]: %%time
args = {
    'training': '../db_aulas/Imagens/minibases/textures/train',
    'test': '../db_aulas/Imagens/minibases/textures/test/',
}
sift_detectar(args)

[INFO] training classifier...
[INFO] evaluating...
Accuracy: 1.0
CPU times: user 1min 32s, sys: 943 ms, total: 1min 33s
Wall time: 44.1 s

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In [4]: def cvt_color_BRG2RGB(image_path=None):
    image = cv2.imread(image_path)
    image = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
    return image

In [5]: def keypoints_descriptors(image=None):
    sift = cv2.xfeatures2d.SIFT_create(nfeatures=0,
                                        nOctaveLayers=3,
                                        contrastThreshold=0.04,
                                        edgeThreshold=10,
                                        sigma=1.6)

    (keypoints, descriptors) = sift.detectAndCompute(image, None)
    return (keypoints, descriptors)

In [6]: def data_make(image_path=None):
    label = image_path.split("/")[-2]
    img = cvt_color_BRG2RGB(image_path)
    _, des = keypoints_descriptors(img)
    return {'img': img, 'label': label, 'des': iter(des)}

In [11]: def sift_detectar_knearest(args):
    data = []
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labels = []

pool = mp.Pool()
pick_data = (
    pool.apply_async(data_make, args=(path_img,))
    for path_img in paths.list_images(args["training"])
)

for result in pick_data:
    result = result.get()
    label = result.get('label')
    des = result.get('des')
    for d in des:
        data.append(d)
        labels.append(label)

# "train" the nearest neighbors classifier
print("[INFO] training classifier...")
model = KNeighborsClassifier(n_neighbors=2)
model.fit(data, labels)
print("[INFO] evaluating...")

del data
del labels

classes = model.classes_

data_preds = []
labels_test = []

pick_data = (
    pool.apply_async(data_make, args=(path_img,))
    for path_img in paths.list_images(args["test"])
)

for result in pick_data:
    result = result.get()
    img = result.get('img')
    label = result.get('label')
    des = result.get('des')

    data_preds_img = []
    labels_test_img = []

    ctn = Counter()
    probs = {c: 0.0 for c in classes}

    des = list(des)

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len_des = len(des)
des = iter(des)

for d in des:
    pred = model.predict([d])[0]
    prob = model.predict_proba([d])[0]

    data_preds_img.append(pred)
    labels_test_img.append(label)

    for i, c in enumerate(classes):
        probs[c] += prob[i]

    ctn.update(data_preds_img)

probs = {c:p/len_des for c,p in probs.items()}
count_class = dict(ctn.most_common())

predict = sorted(probs.items(), key=lambda x: -x[1])
pred = predict[0][0]

data_preds.append(pred)
labels_test.append(label)

print(f'\nImage: {label}')
print(f'Probabilidades: {probs}')
print(f'Counter Classes: {count_class}')
print(f'Sorted Predict: {predict}')

cv2.putText(img, pred, (10, 35), cv2.FONT_HERSHEY_SIMPLEX, 1.0, (0, 255, 0), 3)
obj = {'X': img}
exibir_imagens(obj)

accuracy_score_local = sklearn.metrics.accuracy_score(y_true=labels_test_img,
                                                       y_pred=data_preds_img,
                                                       normalize=True)
print(f'Accuracy Local: {100*accuracy_score_local:.2f}%')

accuracy_score_global = sklearn.metrics.accuracy_score(y_true=labels_test,
                                                       y_pred=data_preds,
                                                       normalize=True)
print(f'\nAccuracy Global: {100*accuracy_score_global:.2f}%')

```

In [12]: %time

```

args = {
    'training': '../db_aulas/Imagens/minibases/textures/train',
    'test': '../db_aulas/Imagens/minibases/textures/test/',
}

```

```
sift_detectar_knearest(args)

[INFO] training classifier...
[INFO] evaluating...

Image: rock
Probabilidades: {'checkered': 0.014606741573033709, 'grass': 0.2745318352059925, 'rock': 0.71086142322097379}
Counter Classes: {'rock': 845, 'grass': 463, 'checkered': 27}
Sorted Predict: [('rock', 0.71086142322097379), ('grass', 0.2745318352059925), ('checkered', 0.014606741573033709)]
Accuracy Local: 63.30%

Image: checkered
Probabilidades: {'checkered': 0.99877937137625872, 'grass': 0.00015257857796765334, 'rock': 0.0010680500457735734}
Counter Classes: {'checkered': 3277}
Sorted Predict: [('checkered', 0.99877937137625872), ('rock', 0.0010680500457735734), ('grass', 0.00015257857796765334)]
Accuracy Local: 100.00%

Image: grass
Probabilidades: {'checkered': 0.036885245901639344, 'grass': 0.92122040072859745, 'rock': 0.041894353369763208}
Counter Classes: {'grass': 1039, 'checkered': 54, 'rock': 5}
Sorted Predict: [('grass', 0.92122040072859745), ('rock', 0.041894353369763208), ('checkered', 0.036885245901639344)]
Accuracy Local: 94.63%

Accuracy Global: 100.00%
CPU times: user 37.4 s, sys: 732 ms, total: 38.2 s
Wall time: 38.9 s
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In [13]: args = {
    'training': '../db_aulas/Imagens/minibases/atividade7/Train/',
    'test': '../db_aulas/Imagens/minibases/atividade7/Test/',
}

sift_detectar_knearest(args)

[INFO] training classifier...
[INFO] evaluating...

Image: highway
Probabilidades: {'Opencountry': 0.10921843687374749, 'coast': 0.10721442885771543, 'forest': 0.0}
Counter Classes: {'Opencountry': 97, 'forest': 90, 'inside_city': 89, 'coast': 80, 'highway': 5}
Sorted Predict: [('street', 0.18336673346693386), ('inside_city', 0.16733466933867736), ('tall', 0.0)]
Accuracy Local: 11.62%

Image: highway
Probabilidades: {'Opencountry': 0.14000000000000001, 'coast': 0.1622222222222221, 'forest': 0.0}
Counter Classes: {'Opencountry': 59, 'coast': 56, 'highway': 30, 'forest': 27, 'inside_city': 25}
Sorted Predict: [('coast', 0.1622222222222221), ('inside_city', 0.1555555555555556), ('Openc', 0.0)]
Accuracy Local: 13.33%

Image: highway
Probabilidades: {'Opencountry': 0.12750455373406194, 'coast': 0.11839708561020036, 'forest': 0.0}
Counter Classes: {'Opencountry': 126, 'forest': 119, 'coast': 103, 'inside_city': 75, 'highway': 25}
Sorted Predict: [('forest', 0.17395264116575593), ('street', 0.13752276867030966), ('inside_ci', 0.0)]
Accuracy Local: 9.47%

Image: highway
Probabilidades: {'Opencountry': 0.10099337748344371, 'coast': 0.071192052980132453, 'forest': 0.0}
Counter Classes: {'forest': 92, 'Opencountry': 56, 'inside_city': 48, 'coast': 37, 'highway': 25}
Sorted Predict: [('forest', 0.22185430463576158), ('inside_city', 0.15728476821192053), ('tall', 0.0)]
Accuracy Local: 7.62%

Image: highway
Probabilidades: {'Opencountry': 0.1169811320754717, 'coast': 0.057547169811320756, 'forest': 0.0}
Counter Classes: {'forest': 164, 'Opencountry': 115, 'inside_city': 86, 'coast': 47, 'highway': 25}
Sorted Predict: [('forest', 0.24056603773584906), ('inside_city', 0.14811320754716981), ('street', 0.0)]
Accuracy Local: 7.92%

Image: highway
Probabilidades: {'Opencountry': 0.13529411764705881, 'coast': 0.070588235294117646, 'forest': 0.0}
Counter Classes: {'forest': 75, 'Opencountry': 62, 'highway': 29, 'inside_city': 29, 'coast': 25}
Sorted Predict: [('forest', 0.20980392156862746), ('inside_city', 0.14705882352941177), ('Openc', 0.0)]
Accuracy Local: 11.37%

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Image: highway
Probabilidades: {'Opencountry': 0.099337748344370855, 'coast': 0.074503311258278151, 'forest': 0.125662252, 'inside_city': 0.119, 'highway': 0.072, 'tallbuilding': 0.0622525, 'street': 0.0630794701986755, 'mountain': 0.05337423312883436}
Counter Classes: {'forest': 125, 'inside_city': 119, 'Opencountry': 115, 'coast': 72, 'highway': 66, 'tallbuilding': 45, 'street': 38, 'mountain': 36}
Sorted Predict: [('inside_city', 0.18460264900662252), ('street', 0.1630794701986755), ('forest', 0.125662252), ('Opencountry', 0.099337748344370855), ('coast', 0.074503311258278151), ('highway', 0.072), ('tallbuilding', 0.0622525), ('mountain', 0.05337423312883436)]
Accuracy Local: 10.93%

Image: highway
Probabilidades: {'Opencountry': 0.13706563706563707, 'coast': 0.077220077220077218, 'forest': 0.0622525, 'inside_city': 0.054, 'highway': 0.045, 'tallbuilding': 0.036, 'street': 0.036, 'mountain': 0.036}
Counter Classes: {'Opencountry': 66, 'inside_city': 54, 'forest': 45, 'coast': 36, 'highway': 27, 'tallbuilding': 21, 'street': 18, 'mountain': 18}
Sorted Predict: [('inside_city', 0.20270270270270271), ('tallbuilding', 0.15444015444015444), ('street', 0.15298507462686567), ('forest', 0.125662252), ('Opencountry', 0.099337748344370855), ('coast', 0.074503311258278151), ('highway', 0.072), ('tallbuilding', 0.0622525), ('mountain', 0.05337423312883436)]
Accuracy Local: 8.88%

Image: highway
Probabilidades: {'Opencountry': 0.11194029850746269, 'coast': 0.18283582089552239, 'forest': 0.05337423312883436, 'inside_city': 0.038, 'highway': 0.033, 'tallbuilding': 0.026, 'street': 0.026, 'mountain': 0.026}
Counter Classes: {'coast': 76, 'Opencountry': 48, 'highway': 43, 'inside_city': 38, 'forest': 33, 'tallbuilding': 26, 'street': 21, 'mountain': 21}
Sorted Predict: [('coast', 0.18283582089552239), ('inside_city', 0.15298507462686567), ('street', 0.15298507462686567), ('forest', 0.125662252), ('Opencountry', 0.099337748344370855), ('highway', 0.072), ('tallbuilding', 0.0622525), ('mountain', 0.05337423312883436)]
Accuracy Local: 16.04%

Image: highway
Probabilidades: {'Opencountry': 0.15129151291512916, 'coast': 0.11623616236162361, 'forest': 0.05337423312883436, 'inside_city': 0.033, 'highway': 0.03, 'tallbuilding': 0.021, 'street': 0.021, 'mountain': 0.021}
Counter Classes: {'Opencountry': 75, 'forest': 53, 'coast': 50, 'highway': 30, 'inside_city': 28, 'tallbuilding': 21, 'street': 18, 'mountain': 18}
Sorted Predict: [('forest', 0.15498154981549817), ('Opencountry', 0.15129151291512916), ('street', 0.15129151291512916), ('tallbuilding', 0.15129151291512916), ('mountain', 0.15129151291512916), ('highway', 0.15129151291512916), ('inside_city', 0.15129151291512916), ('coast', 0.15129151291512916), ('Opencountry', 0.15129151291512916)]
Accuracy Local: 11.07%

Image: highway
Probabilidades: {'Opencountry': 0.13135593220338984, 'coast': 0.1059322033898305, 'forest': 0.05337423312883436, 'inside_city': 0.029, 'highway': 0.028, 'tallbuilding': 0.021, 'street': 0.021, 'mountain': 0.021}
Counter Classes: {'Opencountry': 57, 'forest': 48, 'coast': 38, 'highway': 30, 'inside_city': 29, 'tallbuilding': 21, 'street': 18, 'mountain': 18}
Sorted Predict: [('forest', 0.15254237288135594), ('street', 0.1461864406779661), ('Opencountry', 0.15129151291512916), ('tallbuilding', 0.15129151291512916), ('mountain', 0.15129151291512916), ('highway', 0.15129151291512916), ('inside_city', 0.15129151291512916), ('coast', 0.15129151291512916), ('Opencountry', 0.15129151291512916)]
Accuracy Local: 12.29%

Image: highway
Probabilidades: {'Opencountry': 0.11130742049469965, 'coast': 0.085689045936395758, 'forest': 0.05337423312883436, 'inside_city': 0.064, 'highway': 0.078, 'tallbuilding': 0.049, 'street': 0.038, 'mountain': 0.025}
Counter Classes: {'forest': 155, 'Opencountry': 117, 'coast': 78, 'highway': 64, 'inside_city': 64, 'tallbuilding': 49, 'street': 38, 'mountain': 25}
Sorted Predict: [('forest', 0.21201413427561838), ('street', 0.14310954063604239), ('inside_city', 0.14310954063604239), ('tallbuilding', 0.14310954063604239), ('mountain', 0.14310954063604239), ('highway', 0.14310954063604239), ('inside_city', 0.14310954063604239), ('coast', 0.14310954063604239), ('Opencountry', 0.14310954063604239)]
Accuracy Local: 9.72%

Image: highway
Probabilidades: {'Opencountry': 0.1196319018404908, 'coast': 0.15644171779141106, 'forest': 0.05337423312883436, 'inside_city': 0.025, 'highway': 0.019, 'tallbuilding': 0.019, 'street': 0.019, 'mountain': 0.019}
Counter Classes: {'coast': 40, 'Opencountry': 36, 'inside_city': 25, 'forest': 19, 'highway': 14, 'tallbuilding': 14, 'street': 11, 'mountain': 11}
Sorted Predict: [('coast', 0.15644171779141106), ('inside_city', 0.15337423312883436), ('tallbuilding', 0.15337423312883436), ('mountain', 0.15337423312883436), ('highway', 0.15337423312883436), ('inside_city', 0.15337423312883436), ('street', 0.15337423312883436), ('coast', 0.15337423312883436), ('Opencountry', 0.15337423312883436)]
Accuracy Local: 11.66%

Image: highway
Probabilidades: {'Opencountry': 0.15571428571428572, 'coast': 0.097142857142857142, 'forest': 0.05337423312883436, 'inside_city': 0.038, 'highway': 0.049, 'tallbuilding': 0.038, 'street': 0.038, 'mountain': 0.025}
Counter Classes: {'Opencountry': 95, 'forest': 82, 'coast': 49, 'highway': 38, 'inside_city': 38, 'tallbuilding': 38, 'street': 25, 'mountain': 19}
Sorted Predict: [('forest', 0.17714285714285713), ('Opencountry', 0.15571428571428572), ('street', 0.15571428571428572), ('tallbuilding', 0.15571428571428572), ('mountain', 0.15571428571428572), ('highway', 0.15571428571428572), ('inside_city', 0.15571428571428572), ('coast', 0.15571428571428572), ('Opencountry', 0.15571428571428572)]
Accuracy Local: 7.71%

Image: highway
Probabilidades: {'Opencountry': 0.10256410256410256, 'coast': 0.081501831501831504, 'forest': 0.081501831501831504
Counter Classes: {'forest': 133, 'Opencountry': 105, 'inside_city': 97, 'coast': 76, 'highway': 50
Sorted Predict: [('inside_city', 0.17765567765567766), ('forest', 0.17399267399267399), ('street', 0.16326530612244897)
Accuracy Local: 13.19%

Image: highway
Probabilidades: {'Opencountry': 0.16326530612244897, 'coast': 0.096938775510204078, 'forest': 0.096938775510204078
Counter Classes: {'Opencountry': 51, 'forest': 48, 'coast': 32, 'inside_city': 27, 'highway': 20
Sorted Predict: [('forest', 0.2066326530612245), ('Opencountry', 0.16326530612244897), ('tallbuilding', 0.11834319526627218)
Accuracy Local: 7.65%

Image: highway
Probabilidades: {'Opencountry': 0.11834319526627218, 'coast': 0.093195266272189353, 'forest': 0.093195266272189353
Counter Classes: {'forest': 89, 'Opencountry': 73, 'coast': 52, 'highway': 50, 'inside_city': 45
Sorted Predict: [('forest', 0.19822485207100593), ('inside_city', 0.128698224852071), ('street', 0.128698224852071)
Accuracy Local: 14.79%

Image: highway
Probabilidades: {'Opencountry': 0.09166666666666666, 'coast': 0.13166666666666665, 'forest': 0.13166666666666665
Counter Classes: {'coast': 55, 'Opencountry': 54, 'inside_city': 54, 'forest': 50, 'highway': 35
Sorted Predict: [('street', 0.16500000000000001), ('inside_city', 0.16), ('tallbuilding', 0.14583333333333334)
Accuracy Local: 12.67%

Image: highway
Probabilidades: {'Opencountry': 0.11490683229813664, 'coast': 0.09627329192546584, 'forest': 0.09627329192546584
Counter Classes: {'forest': 118, 'Opencountry': 105, 'coast': 72, 'inside_city': 69, 'highway': 35
Sorted Predict: [('forest', 0.18115942028985507), ('inside_city', 0.17080745341614906), ('street', 0.17080745341614906)
Accuracy Local: 9.52%

Image: highway
Probabilidades: {'Opencountry': 0.12202380952380952, 'coast': 0.087797619047619041, 'forest': 0.087797619047619041
Counter Classes: {'Opencountry': 75, 'highway': 65, 'forest': 64, 'coast': 44, 'inside_city': 44
Sorted Predict: [('tallbuilding', 0.14732142857142858), ('highway', 0.14583333333333334), ('inside_city', 0.14583333333333334)
Accuracy Local: 19.35%

Image: forest
Probabilidades: {'Opencountry': 0.13528990694345025, 'coast': 0.05654974946313529, 'forest': 0.05654974946313529
Counter Classes: {'forest': 628, 'Opencountry': 348, 'coast': 124, 'inside_city': 114, 'mountain': 114
Sorted Predict: [('forest', 0.36542591267000718), ('Opencountry', 0.13528990694345025), ('mountain', 0.13528990694345025)
Accuracy Local: 44.95%

/home/iury/.pyenv/versions/3.6.2/envs/lab/lib/python3.6/site-packages/matplotlib/pyplot.py:524
max_open_warning, RuntimeWarning)

Image: forest
Probabilidades: {'Opencountry': 0.14211212516297261, 'coast': 0.08344198174706649, 'forest': 0.2926988265971317}
Counter Classes: {'forest': 261, 'Opencountry': 201, 'coast': 102, 'inside_city': 63, 'highway': 41, 'mountain': 11, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.2926988265971317), ('Opencountry', 0.14211212516297261), ('mountain', 0.08344198174706649), ('coast', 0.067761806981519512), ('highway', 0.04198174706649), ('inside_city', 0.0261025623140458), ('street', 0.01100125623140458), ('water', 0.006300125623140458), ('mountain', 0.004198174706649), ('opencountry', 0.0020100125623140458), ('coast', 0.0010200125623140458), ('highway', 0.0004198174706649), ('inside_city', 0.000261025623140458), ('street', 0.0001100125623140458), ('water', 0.00006300125623140458)}
Accuracy Local: 34.03%

Image: forest
Probabilidades: {'Opencountry': 0.14168377823408623, 'coast': 0.067761806981519512, 'forest': 0.31827515400410678}
Counter Classes: {'forest': 378, 'Opencountry': 259, 'coast': 110, 'inside_city': 72, 'highway': 41, 'mountain': 11, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.31827515400410678), ('Opencountry', 0.14168377823408623), ('mountain', 0.067761806981519512), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 38.81%

Image: forest
Probabilidades: {'Opencountry': 0.13916256157635468, 'coast': 0.081896551724137928, 'forest': 0.30541871921182268}
Counter Classes: {'forest': 308, 'Opencountry': 205, 'coast': 107, 'mountain': 50, 'highway': 41, 'inside_city': 26, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.30541871921182268), ('Opencountry', 0.13916256157635468), ('mountain', 0.081896551724137928), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 37.93%

Image: forest
Probabilidades: {'Opencountry': 0.13275299238302501, 'coast': 0.07725788900979326, 'forest': 0.30739934711643091}
Counter Classes: {'forest': 346, 'Opencountry': 226, 'coast': 123, 'inside_city': 66, 'mountain': 50, 'highway': 41, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.30739934711643091), ('Opencountry', 0.13275299238302501), ('mountain', 0.07725788900979326), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 37.65%

Image: forest
Probabilidades: {'Opencountry': 0.13260672116257946, 'coast': 0.09264305177111716, 'forest': 0.26021798365122617}
Counter Classes: {'forest': 356, 'Opencountry': 269, 'coast': 160, 'inside_city': 111, 'mountain': 50, 'highway': 41, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.26021798365122617), ('Opencountry', 0.13260672116257946), ('mountain', 0.09264305177111716), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 32.33%

Image: forest
Probabilidades: {'Opencountry': 0.14232081911262798, 'coast': 0.06655290102389079, 'forest': 0.32047781569965872}
Counter Classes: {'forest': 574, 'Opencountry': 379, 'coast': 152, 'inside_city': 121, 'mountain': 50, 'highway': 41, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.32047781569965872), ('Opencountry', 0.14232081911262798), ('mountain', 0.06655290102389079), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 39.18%

Image: forest
Probabilidades: {'Opencountry': 0.13972286374133949, 'coast': 0.080831408775981523, 'forest': 0.2823325635103926}
Counter Classes: {'forest': 289, 'Opencountry': 215, 'coast': 113, 'inside_city': 78, 'mountain': 50, 'highway': 41, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.2823325635103926), ('Opencountry', 0.13972286374133949), ('mountain', 0.080831408775981523), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 33.37%

Image: forest
Probabilidades: {'Opencountry': 0.14777070063694267, 'coast': 0.061146496815286625, 'forest': 0.33407643312101909}
Counter Classes: {'forest': 648, 'Opencountry': 425, 'coast': 153, 'inside_city': 112, 'mountain': 50, 'highway': 41, 'street': 11, 'water': 11}
Sorted Predict: [('forest', 0.33407643312101909), ('Opencountry', 0.14777070063694267), ('mountain', 0.061146496815286625), ('coast', 0.04198174706649), ('highway', 0.0261025623140458), ('inside_city', 0.01100125623140458), ('street', 0.006300125623140458), ('water', 0.004198174706649), ('mountain', 0.0020100125623140458), ('opencountry', 0.0010200125623140458), ('coast', 0.0004198174706649), ('highway', 0.000261025623140458), ('inside_city', 0.0001100125623140458), ('street', 0.00006300125623140458)}
Accuracy Local: 41.27%

Image: forest
Probabilidades: {'Opencountry': 0.14404332129963898, 'coast': 0.067509025270758125, 'forest': 0.091373439273552778}
Counter Classes: {'forest': 548, 'Opencountry': 376, 'coast': 160, 'inside_city': 98, 'mountain': 100, 'street': 100}
Sorted Predict: [('forest', 0.33574007220216606), ('Opencountry', 0.14404332129963898), ('street', 0.091373439273552778), ('coast', 0.067509025270758125), ('inside_city', 0.091373439273552778), ('mountain', 0.091373439273552778)]
Accuracy Local: 39.57%

Image: forest
Probabilidades: {'Opencountry': 0.13987473903966596, 'coast': 0.058977035490605428, 'forest': 0.091373439273552778}
Counter Classes: {'forest': 349, 'Opencountry': 248, 'coast': 99, 'inside_city': 86, 'mountain': 100, 'street': 100}
Sorted Predict: [('forest', 0.30427974947807934), ('Opencountry', 0.13987473903966596), ('street', 0.091373439273552778), ('coast', 0.058977035490605428), ('inside_city', 0.091373439273552778), ('mountain', 0.091373439273552778)]
Accuracy Local: 36.43%

Image: forest
Probabilidades: {'Opencountry': 0.14188422247446084, 'coast': 0.091373439273552778, 'forest': 0.091373439273552778}
Counter Classes: {'forest': 308, 'Opencountry': 226, 'coast': 130, 'inside_city': 72, 'mountain': 100, 'street': 100}
Sorted Predict: [('forest', 0.31157775255391601), ('Opencountry', 0.14188422247446084), ('street', 0.091373439273552778), ('coast', 0.091373439273552778), ('inside_city', 0.091373439273552778), ('mountain', 0.091373439273552778)]
Accuracy Local: 34.96%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.078158458244111342, 'coast': 0.051391862955032119, 'forest': 0.092639593908629442}
Counter Classes: {'forest': 83, 'inside_city': 81, 'street': 72, 'Opencountry': 70, 'tallbuilding': 70, 'coast': 70}
Sorted Predict: [('tallbuilding', 0.24518201284796573), ('street', 0.19379014989293361), ('Opencountry', 0.092639593908629442), ('forest', 0.078158458244111342), ('inside_city', 0.092639593908629442), ('coast', 0.051391862955032119)]
Accuracy Local: 11.99%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.092639593908629442, 'coast': 0.067258883248730958, 'forest': 0.074829931972789115}
Counter Classes: {'inside_city': 85, 'Opencountry': 66, 'forest': 58, 'highway': 53, 'coast': 53, 'street': 53}
Sorted Predict: [('inside_city', 0.20304568527918782), ('tallbuilding', 0.19416243654822335), ('Opencountry', 0.092639593908629442), ('forest', 0.074829931972789115), ('highway', 0.092639593908629442), ('coast', 0.067258883248730958)]
Accuracy Local: 6.85%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.074829931972789115, 'coast': 0.076530612244897961, 'forest': 0.054659498207885307}
Counter Classes: {'inside_city': 63, 'forest': 57, 'Opencountry': 42, 'highway': 40, 'coast': 40, 'street': 40}
Sorted Predict: [('tallbuilding', 0.19897959183673469), ('inside_city', 0.19727891156462585), ('Opencountry', 0.074829931972789115), ('forest', 0.054659498207885307), ('highway', 0.092639593908629442), ('coast', 0.076530612244897961)]
Accuracy Local: 5.10%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.054659498207885307, 'coast': 0.034050179211469536, 'forest': 0.10668380462724936}
Counter Classes: {'tallbuilding': 264, 'inside_city': 71, 'Opencountry': 58, 'forest': 46, 'street': 46, 'coast': 46}
Sorted Predict: [('tallbuilding', 0.57168458781362008), ('inside_city', 0.10663082437275985), ('Opencountry', 0.054659498207885307), ('forest', 0.074829931972789115), ('street', 0.092639593908629442), ('coast', 0.034050179211469536)]
Accuracy Local: 47.31%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.10668380462724936, 'coast': 0.10539845758354756, 'forest': 0.22879177377892032}
Counter Classes: {'inside_city': 73, 'Opencountry': 73, 'coast': 65, 'forest': 45, 'tallbuilding': 45, 'street': 45}
Sorted Predict: [('tallbuilding', 0.22879177377892032), ('inside_city', 0.16195372750642673), ('Opencountry', 0.10668380462724936), ('forest', 0.10668380462724936), ('street', 0.092639593908629442), ('coast', 0.10539845758354756)]
Accuracy Local: 10.28%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.086538461538461536, 'coast': 0.078296703296703296, 'forest': 0.078296703296703296
Counter Classes: {'forest': 86, 'Opencountry': 61, 'inside_city': 59, 'highway': 46, 'coast': 46
Sorted Predict: [('inside_city', 0.17445054945054944), ('forest', 0.1717032967032967), ('tallbuilding', 0.1717032967032967)
Accuracy Local: 4.67%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.089970501474926259, 'coast': 0.079646017699115043, 'forest': 0.079646017699115043
Counter Classes: {'Opencountry': 56, 'inside_city': 56, 'forest': 54, 'tallbuilding': 52, 'coast': 52
Sorted Predict: [('tallbuilding', 0.29056047197640117), ('inside_city', 0.1415929203539823), ('forest', 0.1415929203539823)
Accuracy Local: 15.34%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.125, 'coast': 0.073369565217391311, 'forest': 0.22010869565217391311
Counter Classes: {'forest': 97, 'Opencountry': 83, 'inside_city': 52, 'coast': 38, 'mountain': 38
Sorted Predict: [('forest', 0.22010869565217392), ('tallbuilding', 0.15081521739130435), ('inside_city', 0.15081521739130435)
Accuracy Local: 7.07%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.094890510948905105, 'coast': 0.09002433090024331, 'forest': 0.09002433090024331
Counter Classes: {'Opencountry': 70, 'inside_city': 66, 'forest': 65, 'coast': 60, 'tallbuilding': 60
Sorted Predict: [('tallbuilding', 0.25790754257907544), ('inside_city', 0.13381995133819952), ('forest', 0.13381995133819952)
Accuracy Local: 14.60%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.090185676392572939, 'coast': 0.098143236074270557, 'forest': 0.098143236074270557
Counter Classes: {'inside_city': 90, 'Opencountry': 64, 'forest': 59, 'coast': 57, 'highway': 57
Sorted Predict: [('inside_city', 0.19761273209549071), ('street', 0.17771883289124668), ('tallbuilding', 0.17771883289124668)
Accuracy Local: 2.92%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.1232, 'coast': 0.056000000000000001, 'forest': 0.266400000000000001
Counter Classes: {'forest': 428, 'Opencountry': 282, 'inside_city': 150, 'coast': 115, 'highway': 115
Sorted Predict: [('forest', 0.26640000000000003), ('street', 0.14399999999999999), ('inside_city', 0.14399999999999999)
Accuracy Local: 1.76%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.1307471264367816, 'coast': 0.07183908045977011, 'forest': 0.07183908045977011
Counter Classes: {'Opencountry': 78, 'forest': 70, 'inside_city': 63, 'coast': 41, 'highway': 41
Sorted Predict: [('inside_city', 0.17528735632183909), ('tallbuilding', 0.16954022988505746), ('street', 0.16954022988505746)
Accuracy Local: 5.46%

Image: tallbuilding
Probabilidades: {'Opencountry': 0.0859375, 'coast': 0.10807291666666667, 'forest': 0.12890625, 'tallbuilding': 0.12890625
Counter Classes: {'inside_city': 80, 'forest': 70, 'coast': 65, 'Opencountry': 63, 'highway': 63
Sorted Predict: [('inside_city', 0.1770833333333334), ('street', 0.1731770833333334), ('tallbuilding', 0.1731770833333334)
Accuracy Local: 4.69%


```
Image: inside_city
Probabilidades: {'Opencountry': 0.092523364485981308, 'coast': 0.085046728971962623, 'forest': 0.255, 'inside_city': 0.188, 'Opencountry': 0.185, 'coast': 0.148, 'highway': 0.148, 'tallbuilding': 0.1757}
Counter Classes: {'forest': 255, 'inside_city': 188, 'Opencountry': 185, 'coast': 148, 'highway': 148, 'tallbuilding': 1757}
Sorted Predict: [('forest', 0.18644859813084111), ('inside_city', 0.16588785046728971), ('tallbuilding', 0.1757)]
Accuracy Local: 17.57%


Image: inside_city
Probabilidades: {'Opencountry': 0.094716494845360821, 'coast': 0.070231958762886598, 'forest': 0.176, 'inside_city': 0.137, 'Opencountry': 0.136, 'forest': 0.136, 'coast': 0.092, 'street': 0.092, 'highway': 0.19652061855670103, 'tallbuilding': 0.2268}
Counter Classes: {'inside_city': 176, 'Opencountry': 137, 'forest': 136, 'coast': 92, 'street': 92, 'highway': 19652061855670103, 'tallbuilding': 2268}
Sorted Predict: [('inside_city', 0.19652061855670103), ('street', 0.1797680412371134), ('tallbuilding', 0.19754768392370572)]
Accuracy Local: 22.68%


Image: inside_city
Probabilidades: {'Opencountry': 0.049046321525885561, 'coast': 0.059945504087193457, 'forest': 0.143, 'inside_city': 0.143, 'Opencountry': 0.143, 'forest': 0.049, 'highway': 0.042, 'street': 0.041, 'coast': 0.034, 'highway': 0.35558583106267028, 'tallbuilding': 0.3896}
Counter Classes: {'inside_city': 143, 'forest': 49, 'highway': 42, 'street': 41, 'coast': 34, 'highway': 35558583106267028, 'tallbuilding': 3896}
Sorted Predict: [('inside_city', 0.35558583106267028), ('tallbuilding', 0.19754768392370572), ('inside_city', 0.3896)]
Accuracy Local: 38.96%


Image: inside_city
Probabilidades: {'Opencountry': 0.093896713615023469, 'coast': 0.057120500782472612, 'forest': 0.151, 'inside_city': 0.113, 'Opencountry': 0.113, 'forest': 0.151, 'coast': 0.113, 'tallbuilding': 0.086, 'street': 0.086, 'highway': 0.24413145539906103, 'tallbuilding': 0.1581}
Counter Classes: {'forest': 151, 'Opencountry': 113, 'inside_city': 101, 'tallbuilding': 86, 'street': 86, 'highway': 24413145539906103, 'tallbuilding': 1581}
Sorted Predict: [('tallbuilding', 0.24413145539906103), ('forest', 0.17683881064162754), ('inside_city', 0.1581)]
Accuracy Local: 15.81%


Image: inside_city
Probabilidades: {'Opencountry': 0.10000000000000001, 'coast': 0.055905511811023621, 'forest': 0.131, 'inside_city': 0.114, 'Opencountry': 0.114, 'forest': 0.105, 'highway': 0.088, 'street': 0.088, 'coast': 0.088, 'highway': 0.18188976377952756, 'tallbuilding': 0.2063}
Counter Classes: {'inside_city': 131, 'Opencountry': 114, 'forest': 105, 'highway': 88, 'street': 88, 'coast': 88, 'highway': 18188976377952756, 'tallbuilding': 2063}
Sorted Predict: [('inside_city', 0.18188976377952756), ('street', 0.17716535433070865), ('tallbuilding', 0.17716535433070865)]
Accuracy Local: 20.63%


Image: inside_city
Probabilidades: {'Opencountry': 0.11331444759206799, 'coast': 0.071529745042492918, 'forest': 0.204, 'inside_city': 0.150, 'Opencountry': 0.150, 'forest': 0.204, 'coast': 0.150, 'tallbuilding': 0.096, 'street': 0.096, 'highway': 0.22592067988668554, 'tallbuilding': 0.1686}
Counter Classes: {'forest': 204, 'Opencountry': 150, 'inside_city': 119, 'coast': 84, 'highway': 84, 'street': 84, 'highway': 22592067988668554, 'tallbuilding': 1686}
Sorted Predict: [('forest', 0.22592067988668554), ('inside_city', 0.17209631728045327), ('tallbuilding', 0.17209631728045327)]
Accuracy Local: 16.86%


Image: inside_city
Probabilidades: {'Opencountry': 0.13787638668779714, 'coast': 0.08874801901743265, 'forest': 0.160, 'inside_city': 0.147, 'Opencountry': 0.147, 'forest': 0.160, 'coast': 0.147, 'highway': 0.096, 'street': 0.096, 'coast': 0.096, 'highway': 0.1988906497622821, 'tallbuilding': 0.1521}
Counter Classes: {'Opencountry': 160, 'forest': 147, 'inside_city': 96, 'coast': 88, 'highway': 88, 'street': 88, 'coast': 88, 'highway': 1988906497622821, 'tallbuilding': 1521}
Sorted Predict: [('forest', 0.1988906497622821), ('inside_city', 0.16561014263074486), ('Opencountry', 0.16561014263074486)]
Accuracy Local: 15.21%


Image: inside_city
Probabilidades: {'Opencountry': 0.06022944550669216, 'coast': 0.05736137667304015, 'forest': 0.176, 'inside_city': 0.167, 'Opencountry': 0.167, 'forest': 0.176, 'coast': 0.167, 'highway': 0.064, 'street': 0.064, 'highway': 0.28680688336520077, 'tallbuilding': 0.3365}
Counter Classes: {'inside_city': 176, 'forest': 67, 'highway': 64, 'Opencountry': 60, 'street': 60, 'highway': 64, 'tallbuilding': 3365}
Sorted Predict: [('inside_city', 0.28680688336520077), ('tallbuilding', 0.19502868068833651), ('inside_city', 0.3365)]
Accuracy Local: 33.65%
```

```
Image: inside_city
Probabilidades: {'Opencountry': 0.1035031847133758, 'coast': 0.097133757961783446, 'forest': 0.097133757961783446}
Counter Classes: {'inside_city': 131, 'Opencountry': 118, 'forest': 117, 'coast': 101, 'highway': 73}
Sorted Predict: [(_('inside_city'), 0.18312101910828024), (_('street'), 0.15684713375796178), (_('tallbuilding'), 0.15684713375796178)]
Accuracy Local: 20.86%


Image: inside_city
Probabilidades: {'Opencountry': 0.060194174757281553, 'coast': 0.057281553398058252, 'forest': 0.057281553398058252}
Counter Classes: {'inside_city': 139, 'tallbuilding': 79, 'highway': 73, 'Opencountry': 60, 'street': 58}
Sorted Predict: [(_('tallbuilding'), 0.31941747572815532), (_('inside_city'), 0.21941747572815534), (_('highway'), 0.15684713375796178)]
Accuracy Local: 26.99%


Image: inside_city
Probabilidades: {'Opencountry': 0.073185731857318567, 'coast': 0.064575645756457564, 'forest': 0.064575645756457564}
Counter Classes: {'inside_city': 246, 'forest': 115, 'Opencountry': 113, 'highway': 98, 'tallbuilding': 73}
Sorted Predict: [(_('inside_city'), 0.26322263222632225), (_('tallbuilding'), 0.25030750307503075), (_('highway'), 0.15684713375796178)]
Accuracy Local: 30.26%


Image: inside_city
Probabilidades: {'Opencountry': 0.11627906976744186, 'coast': 0.082364341085271311, 'forest': 0.082364341085271311}
Counter Classes: {'Opencountry': 114, 'forest': 107, 'inside_city': 91, 'coast': 66, 'highway': 58}
Sorted Predict: [(_('inside_city'), 0.16957364341085271), (_('forest'), 0.15503875968992248), (_('street'), 0.15503875968992248)]
Accuracy Local: 17.64%


Image: inside_city
Probabilidades: {'Opencountry': 0.10000000000000001, 'coast': 0.050793650793650794, 'forest': 0.050793650793650794}
Counter Classes: {'inside_city': 85, 'Opencountry': 61, 'forest': 45, 'highway': 38, 'street': 38}
Sorted Predict: [(_('inside_city'), 0.23968253968253969), (_('tallbuilding'), 0.19047619047619047), (_('highway'), 0.15684713375796178)]
Accuracy Local: 26.98%


Image: inside_city
Probabilidades: {'Opencountry': 0.093360995850622408, 'coast': 0.072095435684647297, 'forest': 0.072095435684647297}
Counter Classes: {'forest': 218, 'inside_city': 193, 'Opencountry': 167, 'coast': 126, 'highway': 108}
Sorted Predict: [(_('inside_city'), 0.18724066390041494), (_('forest'), 0.17738589211618258), (_('tallbuilding'), 0.15684713375796178)]
Accuracy Local: 20.02%


Image: inside_city
Probabilidades: {'Opencountry': 0.085638297872340424, 'coast': 0.067553191489361702, 'forest': 0.067553191489361702}
Counter Classes: {'forest': 237, 'inside_city': 173, 'Opencountry': 152, 'coast': 108, 'highway': 94}
Sorted Predict: [(_('forest'), 0.18829787234042553), (_('inside_city'), 0.18191489361702129), (_('tallbuilding'), 0.15684713375796178)]
Accuracy Local: 18.40%


Image: inside_city
Probabilidades: {'Opencountry': 0.09270833333333337, 'coast': 0.082291666666666666, 'forest': 0.082291666666666666}
Counter Classes: {'inside_city': 109, 'forest': 94, 'Opencountry': 85, 'coast': 66, 'highway': 58}
Sorted Predict: [(_('inside_city'), 0.20937500000000001), (_('forest'), 0.1499999999999999), (_('tallbuilding'), 0.15684713375796178)]
Accuracy Local: 22.71%
```

```
Image: inside_city
Probabilidades: {'Opencountry': 0.082697201017811708, 'coast': 0.076335877862595422, 'forest': 0.18893129770992367}
Counter Classes: {'forest': 173, 'inside_city': 170, 'Opencountry': 122, 'coast': 93, 'highway': 71}
Sorted Predict: [('inside_city', 0.18893129770992367), ('tallbuilding', 0.18638676844783714), ('street', 0.1766304347826087), ('forest', 0.19565217391304349)]
Accuracy Local: 21.63%


Image: inside_city
Probabilidades: {'Opencountry': 0.096014492753623185, 'coast': 0.079710144927536225, 'forest': 0.19565217391304349}
Counter Classes: {'forest': 141, 'Opencountry': 99, 'coast': 78, 'inside_city': 71, 'highway': 56}
Sorted Predict: [('forest', 0.19565217391304349), ('tallbuilding', 0.1766304347826087), ('street', 0.17203107658157601), ('Opencountry', 0.099889012208657049)]
Accuracy Local: 12.86%


Image: inside_city
Probabilidades: {'Opencountry': 0.099889012208657049, 'coast': 0.084905660377358486, 'forest': 0.17647058823529413}
Counter Classes: {'forest': 213, 'Opencountry': 166, 'inside_city': 164, 'coast': 130, 'highway': 109}
Sorted Predict: [('forest', 0.17647058823529413), ('tallbuilding', 0.17203107658157601), ('street', 0.14259927797833935), ('Opencountry', 0.099889012208657049)]
Accuracy Local: 18.20%


Image: street
Probabilidades: {'Opencountry': 0.10469314079422383, 'coast': 0.092057761732851989, 'forest': 0.22382671480144403}
Counter Classes: {'forest': 169, 'Opencountry': 105, 'coast': 88, 'inside_city': 71, 'highway': 65}
Sorted Predict: [('forest', 0.22382671480144403), ('inside_city', 0.14259927797833935), ('street', 0.12084592145015106), ('Opencountry', 0.10469314079422383)]
Accuracy Local: 3.43%


Image: street
Probabilidades: {'Opencountry': 0.10579064587973273, 'coast': 0.087973273942093547, 'forest': 0.23496659242761692}
Counter Classes: {'forest': 130, 'Opencountry': 91, 'inside_city': 68, 'coast': 65, 'highway': 56}
Sorted Predict: [('forest', 0.23496659242761692), ('inside_city', 0.15812917594654788), ('tallbuilding', 0.12084592145015106), ('Opencountry', 0.10579064587973273)]
Accuracy Local: 3.12%


Image: street
Probabilidades: {'Opencountry': 0.12084592145015106, 'coast': 0.063444108761329304, 'forest': 0.16918429003021149}
Counter Classes: {'forest': 80, 'Opencountry': 75, 'inside_city': 46, 'highway': 40, 'coast': 35}
Sorted Predict: [('forest', 0.16918429003021149), ('inside_city', 0.16918429003021149), ('street', 0.12084592145015106), ('Opencountry', 0.12084592145015106)]
Accuracy Local: 6.34%


Image: street
Probabilidades: {'Opencountry': 0.1095679012345679, 'coast': 0.084876543209876545, 'forest': 0.17438271604938271}
Counter Classes: {'forest': 71, 'Opencountry': 67, 'inside_city': 55, 'coast': 45, 'highway': 35}
Sorted Predict: [('street', 0.17438271604938271), ('inside_city', 0.16203703703703703), ('Opencountry', 0.1095679012345679), ('forest', 0.1095679012345679)]
Accuracy Local: 6.79%


Image: street
Probabilidades: {'Opencountry': 0.12004069175991862, 'coast': 0.069684638860630727, 'forest': 0.20803662258392674}
Counter Classes: {'forest': 266, 'Opencountry': 217, 'inside_city': 145, 'coast': 114, 'street': 109}
Sorted Predict: [('forest', 0.20803662258392674), ('street', 0.16429298067141404), ('inside_city', 0.16203703703703703), ('Opencountry', 0.12004069175991862)]
Accuracy Local: 8.55%
```

Image: street
Probabilidades: {'Opencountry': 0.092198581560283682, 'coast': 0.098404255319148939, 'forest': 0.152, 'inside_city': 0.089312765957446805107, 'tallbuilding': 0.071264437689969}
Counter Classes: {'forest': 152, 'Opencountry': 99, 'coast': 89, 'inside_city': 80, 'highway': 71, 'tallbuilding': 71}
Sorted Predict: [('forest', 0.20212765957446807), ('street', 0.15159574468085107), ('inside_city', 0.17097264437689969), ('tallbuilding', 0.16133004926108374), ('Opencountry', 0.10714285714285714), ('coast', 0.063829787234042548), ('highway', 0.071264437689969), ('inside_city', 0.082512315270935957), ('tallbuilding', 0.070731707317073164), ('Opencountry', 0.094827586206896547), ('coast', 0.082512315270935957), ('forest', 0.094827586206896547), ('inside_city', 0.06133004926108374), ('tallbuilding', 0.06133004926108374), ('Opencountry', 0.12032418952618454), ('coast', 0.09039900249376559), ('forest', 0.12032418952618454), ('inside_city', 0.070731707317073164), ('tallbuilding', 0.070731707317073164), ('Opencountry', 0.11463414634146342), ('coast', 0.070731707317073164), ('forest', 0.11463414634146342), ('inside_city', 0.065527065527065526), ('tallbuilding', 0.065527065527065526), ('Opencountry', 0.111358574610245), ('coast', 0.083518930957683743), ('forest', 0.111358574610245), ('inside_city', 0.075381679389312978), ('tallbuilding', 0.075381679389312978), ('Opencountry', 0.09686609686609686), ('coast', 0.065527065527065526), ('forest', 0.09686609686609686), ('inside_city', 0.06793893129770993), ('tallbuilding', 0.06793893129770993), ('Opencountry', 0.12213740458015267), ('coast', 0.075381679389312978), ('forest', 0.12213740458015267), ('inside_city', 0.075381679389312978), ('tallbuilding', 0.075381679389312978)}

Image: street
Probabilidades: {'Opencountry': 0.071174377224199295, 'coast': 0.051601423487544484, 'forest': 0.17971530249110321}
Counter Classes: {'inside_city': 85, 'forest': 49, 'Opencountry': 38, 'highway': 29, 'street': 105}
Sorted Predict: [('inside_city', 0.2669039145907473), ('street', 0.17971530249110321), ('tallbuilding', 0.18863636363636363)
Accuracy Local: 9.61%

Image: street
Probabilidades: {'Opencountry': 0.12840909090909092, 'coast': 0.073863636363636367, 'forest': 0.16704545454545455}
Counter Classes: {'Opencountry': 105, 'forest': 95, 'inside_city': 73, 'coast': 54, 'highway': 49}
Sorted Predict: [('inside_city', 0.18863636363636363), ('street', 0.16704545454545455), ('tallbuilding', 0.19298245614035087)
Accuracy Local: 7.05%

Image: street
Probabilidades: {'Opencountry': 0.10964912280701754, 'coast': 0.066520467836257313, 'forest': 0.17543859649122806}
Counter Classes: {'forest': 155, 'Opencountry': 131, 'inside_city': 119, 'coast': 77, 'highway': 54}
Sorted Predict: [('tallbuilding', 0.19298245614035087), ('forest', 0.17543859649122806), ('inside_city', 0.18249258160237389)
Accuracy Local: 6.58%

Image: street
Probabilidades: {'Opencountry': 0.069819819819819814, 'coast': 0.056306306306306307, 'forest': 0.16966966966966968}
Counter Classes: {'forest': 147, 'tallbuilding': 124, 'inside_city': 122, 'Opencountry': 88, 'coast': 77}
Sorted Predict: [('tallbuilding', 0.29204204204204204), ('forest', 0.16966966966966968), ('inside_city', 0.18249258160237389)
Accuracy Local: 7.96%

Image: street
Probabilidades: {'Opencountry': 0.10534124629080119, 'coast': 0.080118694362017809, 'forest': 0.15771812080536912}
Counter Classes: {'forest': 79, 'Opencountry': 65, 'inside_city': 48, 'coast': 43, 'highway': 34}
Sorted Predict: [('forest', 0.18249258160237389), ('street', 0.16023738872403562), ('inside_city', 0.18791946308724833)
Accuracy Local: 7.72%

Image: street
Probabilidades: {'Opencountry': 0.11185682326621924, 'coast': 0.07829977628635347, 'forest': 0.15298507462686567}
Counter Classes: {'forest': 100, 'Opencountry': 94, 'inside_city': 71, 'coast': 56, 'highway': 34}
Sorted Predict: [('forest', 0.18791946308724833), ('street', 0.15771812080536912), ('inside_city', 0.18249258160237389)
Accuracy Local: 8.05%

Image: street
Probabilidades: {'Opencountry': 0.11940298507462686, 'coast': 0.063432835820895525, 'forest': 0.15298507462686567}
Counter Classes: {'forest': 108, 'Opencountry': 88, 'highway': 51, 'inside_city': 50, 'coast': 34}
Sorted Predict: [('forest', 0.1853233830845771), ('street', 0.15298507462686567), ('inside_city', 0.18249258160237389)
Accuracy Local: 6.47%

Image: coast
Probabilidades: {'Opencountry': 0.13516746411483255, 'coast': 0.18660287081339713, 'forest': 0.18660287081339713}
Counter Classes: {'coast': 117, 'Opencountry': 99, 'forest': 75, 'highway': 34, 'mountain': 30}
Sorted Predict: [('coast', 0.18660287081339713), ('Opencountry', 0.13516746411483255), ('forest', 0.18249258160237389)
Accuracy Local: 27.99%

Image: coast
Probabilidades: {'Opencountry': 0.0833333333333329, 'coast': 0.1666666666666666, 'forest': 0.1666666666666666}
Counter Classes: {'coast': 20, 'highway': 13, 'inside_city': 11, 'Opencountry': 11, 'tallbuilding': 7}
Sorted Predict: [('tallbuilding', 0.2777777777777779), ('coast', 0.1666666666666666), ('highway', 0.1666666666666666)
Accuracy Local: 27.78%

Image: coast
Probabilidades: {'Opencountry': 0.051470588235294115, 'coast': 0.21323529411764705, 'forest': 0.1666666666666666}
Counter Classes: {'coast': 25, 'inside_city': 11, 'street': 10, 'Opencountry': 7, 'mountain': 5}
Sorted Predict: [('coast', 0.21323529411764705), ('tallbuilding', 0.16911764705882354), ('street', 0.16911764705882354)
Accuracy Local: 36.76%

Image: coast
Probabilidades: {'Opencountry': 0.07407407407407407, 'coast': 0.1111111111111111, 'forest': 0.1111111111111111}
Counter Classes: {'inside_city': 10, 'forest': 9, 'coast': 8, 'highway': 8, 'Opencountry': 7, 'tallbuilding': 5}
Sorted Predict: [('tallbuilding', 0.23148148148148148), ('inside_city', 0.18518518518518517), ('highway', 0.18518518518518517)
Accuracy Local: 14.81%

Image: coast
Probabilidades: {'Opencountry': 0.14186851211072665, 'coast': 0.20069204152249134, 'forest': 0.14186851211072665}
Counter Classes: {'coast': 82, 'Opencountry': 75, 'forest': 34, 'inside_city': 29, 'mountain': 23, 'street': 10}
Sorted Predict: [('coast', 0.20069204152249134), ('Opencountry', 0.14186851211072665), ('mountain', 0.14186851211072665), ('street', 0.14186851211072665)
Accuracy Local: 28.37%

Image: coast
Probabilidades: {'Opencountry': 0.17894736842105263, 'coast': 0.15789473684210525, 'forest': 0.15789473684210525}
Counter Classes: {'Opencountry': 92, 'coast': 59, 'forest': 35, 'mountain': 33, 'inside_city': 27, 'street': 10}
Sorted Predict: [('Opencountry', 0.17894736842105263), ('coast', 0.15789473684210525), ('mountain', 0.15789473684210525), ('street', 0.15789473684210525)
Accuracy Local: 20.70%

Image: coast
Probabilidades: {'Opencountry': 0.13405797101449277, 'coast': 0.18297101449275363, 'forest': 0.13405797101449277}
Counter Classes: {'coast': 74, 'Opencountry': 67, 'forest': 29, 'inside_city': 27, 'mountain': 23, 'street': 10}
Sorted Predict: [('coast', 0.18297101449275363), ('tallbuilding', 0.15942028985507245), ('street', 0.15942028985507245), ('mountain', 0.15942028985507245)
Accuracy Local: 26.81%

Image: coast
Probabilidades: {'Opencountry': 0.057971014492753624, 'coast': 0.13768115942028986, 'forest': 0.057971014492753624}
Counter Classes: {'forest': 22, 'coast': 16, 'Opencountry': 8, 'highway': 7, 'inside_city': 6, 'tallbuilding': 5}
Sorted Predict: [('forest', 0.2391304347826087), ('tallbuilding', 0.14492753623188406), ('coast', 0.14492753623188406), ('highway', 0.14492753623188406)
Accuracy Local: 23.19%

Image: coast
Probabilidades: {'Opencountry': 0.22727272727272727, 'coast': 0.13636363636363635, 'forest': 0.22727272727272727}
Counter Classes: {'Opencountry': 9, 'street': 3, 'coast': 3, 'inside_city': 3, 'mountain': 1, 'tallbuilding': 1}
Sorted Predict: [('Opencountry', 0.22727272727272727), ('street', 0.181818181818182), ('tallbuilding', 0.181818181818182), ('mountain', 0.181818181818182), ('inside_city', 0.181818181818182), ('coast', 0.181818181818182), ('highway', 0.181818181818182)
Accuracy Local: 13.64%

Image: coast
Probabilidades: {'Opencountry': 0.14473684210526316, 'coast': 0.13596491228070176, 'forest': 0.09300000000000001}
Counter Classes: {'forest': 34, 'Opencountry': 30, 'coast': 21, 'highway': 9, 'street': 6, 'mountain': 0}
Sorted Predict: [('forest', 0.22368421052631579), ('Opencountry', 0.14473684210526316), ('coast', 0.13596491228070176), ('highway', 0.09300000000000001), ('street', 0.06150000000000001), ('mountain', 0.018900000000000002)]
Accuracy Local: 18.42%

Image: coast
Probabilidades: {'Opencountry': 0.076271186440677971, 'coast': 0.11016949152542373, 'forest': 0.05100000000000001}
Counter Classes: {'inside_city': 13, 'coast': 9, 'Opencountry': 9, 'street': 8, 'highway': 6, 'mountain': 0}
Sorted Predict: [('tallbuilding', 0.23728813559322035), ('inside_city', 0.19491525423728814), ('coast', 0.11016949152542373), ('Opencountry', 0.076271186440677971), ('highway', 0.05100000000000001), ('street', 0.030500000000000003)]
Accuracy Local: 15.25%

Image: coast
Probabilidades: {'Opencountry': 0.11904761904761904, 'coast': 0.17460317460317459, 'forest': 0.07500000000000001}
Counter Classes: {'coast': 65, 'Opencountry': 55, 'forest': 48, 'mountain': 24, 'inside_city': 13}
Sorted Predict: [('coast', 0.17460317460317459), ('street', 0.14880952380952381), ('tallbuilding', 0.11904761904761904), ('Opencountry', 0.07500000000000001), ('forest', 0.05100000000000001), ('mountain', 0.025500000000000002)]
Accuracy Local: 25.79%

Image: mountain
Probabilidades: {'Opencountry': 0.13600000000000001, 'coast': 0.07599999999999998, 'forest': 0.05100000000000001}
Counter Classes: {'forest': 247, 'Opencountry': 188, 'coast': 85, 'highway': 68, 'inside_city': 48}
Sorted Predict: [('forest', 0.2513333333333335), ('Opencountry', 0.13600000000000001), ('street', 0.11016949152542373), ('mountain', 0.07599999999999998), ('coast', 0.05100000000000001), ('highway', 0.030500000000000003)]
Accuracy Local: 6.13%

Image: mountain
Probabilidades: {'Opencountry': 0.14883720930232558, 'coast': 0.080620155038759689, 'forest': 0.05100000000000001}
Counter Classes: {'forest': 184, 'Opencountry': 174, 'coast': 79, 'highway': 65, 'inside_city': 48}
Sorted Predict: [('forest', 0.22713178294573644), ('Opencountry', 0.14883720930232558), ('street', 0.11016949152542373), ('mountain', 0.07599999999999998), ('coast', 0.05100000000000001), ('highway', 0.030500000000000003)]
Accuracy Local: 6.98%

Image: mountain
Probabilidades: {'Opencountry': 0.12801608579088472, 'coast': 0.10187667560321716, 'forest': 0.05100000000000001}
Counter Classes: {'forest': 198, 'Opencountry': 178, 'coast': 117, 'inside_city': 79, 'highway': 68}
Sorted Predict: [('forest', 0.21849865951742628), ('street', 0.1400804289544236), ('Opencountry', 0.12801608579088472), ('mountain', 0.10187667560321716), ('coast', 0.080620155038759689), ('highway', 0.05100000000000001)]
Accuracy Local: 7.91%

Image: mountain
Probabilidades: {'Opencountry': 0.10580912863070539, 'coast': 0.11618257261410789, 'forest': 0.05100000000000001}
Counter Classes: {'forest': 66, 'coast': 47, 'Opencountry': 47, 'inside_city': 24, 'highway': 40}
Sorted Predict: [('forest', 0.20124481327800831), ('street', 0.17842323651452283), ('inside_city', 0.11618257261410789), ('Opencountry', 0.10580912863070539), ('coast', 0.080620155038759689), ('highway', 0.05100000000000001)]
Accuracy Local: 7.05%

Image: mountain
Probabilidades: {'Opencountry': 0.14436619718309859, 'coast': 0.10328638497652583, 'forest': 0.05100000000000001}
Counter Classes: {'Opencountry': 113, 'forest': 104, 'coast': 67, 'highway': 40, 'inside_city': 24}
Sorted Predict: [('forest', 0.19953051643192488), ('Opencountry', 0.14436619718309859), ('mountain', 0.10328638497652583), ('coast', 0.080620155038759689), ('highway', 0.05100000000000001), ('inside_city', 0.025500000000000002)]
Accuracy Local: 8.45%

Image: mountain
Probabilidades: {'Opencountry': 0.16118421052631579, 'coast': 0.098684210526315791, 'forest': 0.19078947368421054}
Counter Classes: {'Opencountry': 44, 'forest': 35, 'coast': 21, 'highway': 18, 'mountain': 13}
Sorted Predict: [('forest', 0.19078947368421054), ('Opencountry', 0.16118421052631579), ('mountain', 0.13)
Accuracy Local: 8.55%

Image: mountain
Probabilidades: {'Opencountry': 0.1401766004415011, 'coast': 0.098233995584988965, 'forest': 0.24944812362030905}
Counter Classes: {'forest': 141, 'Opencountry': 118, 'coast': 70, 'mountain': 40, 'inside_city': 30}
Sorted Predict: [('forest', 0.24944812362030905), ('Opencountry', 0.1401766004415011), ('mountain', 0.11441090555014606)
Accuracy Local: 8.83%

Image: mountain
Probabilidades: {'Opencountry': 0.11441090555014606, 'coast': 0.097857838364167476, 'forest': 0.21421616358325218}
Counter Classes: {'forest': 272, 'Opencountry': 224, 'coast': 151, 'mountain': 146, 'inside_city': 110}
Sorted Predict: [('mountain', 0.21421616358325218), ('forest', 0.19376825705939629), ('street', 0.14491150442477876)
Accuracy Local: 14.22%

Image: mountain
Probabilidades: {'Opencountry': 0.14491150442477876, 'coast': 0.090707964601769914, 'forest': 0.26991150442477874}
Counter Classes: {'forest': 139, 'Opencountry': 122, 'coast': 68, 'inside_city': 43, 'highway': 37, 'mountain': 30}
Sorted Predict: [('forest', 0.26991150442477874), ('Opencountry', 0.14491150442477876), ('tall_bldg', 0.12472647702407003)
Accuracy Local: 4.42%

Image: mountain
Probabilidades: {'Opencountry': 0.12472647702407003, 'coast': 0.079868708971553612, 'forest': 0.28993435448577681}
Counter Classes: {'forest': 169, 'Opencountry': 105, 'coast': 64, 'highway': 37, 'inside_city': 30, 'mountain': 20}
Sorted Predict: [('forest', 0.28993435448577681), ('Opencountry', 0.12472647702407003), ('mountain', 0.14409448818897638)
Accuracy Local: 5.03%

Image: mountain
Probabilidades: {'Opencountry': 0.14409448818897638, 'coast': 0.1015748031496063, 'forest': 0.24015748031496062}
Counter Classes: {'forest': 203, 'Opencountry': 160, 'coast': 99, 'street': 44, 'inside_city': 30, 'highway': 20, 'mountain': 15}
Sorted Predict: [('forest', 0.24015748031496062), ('Opencountry', 0.14409448818897638), ('street', 0.1390870185449358)
Accuracy Local: 6.14%

Image: mountain
Probabilidades: {'Opencountry': 0.1390870185449358, 'coast': 0.077032810271041363, 'forest': 0.24322396576319544}
Counter Classes: {'forest': 214, 'Opencountry': 175, 'coast': 88, 'inside_city': 67, 'highway': 20, 'mountain': 15, 'street': 10}
Sorted Predict: [('forest', 0.24322396576319544), ('Opencountry', 0.1390870185449358), ('street', 0.12318840579710146)
Accuracy Local: 6.70%

Image: mountain
Probabilidades: {'Opencountry': 0.12318840579710146, 'coast': 0.11594202898550725, 'forest': 0.17391304347826086}
Counter Classes: {'coast': 29, 'forest': 29, 'Opencountry': 28, 'highway': 20, 'mountain': 15, 'street': 10, 'tall_bldg': 5}
Sorted Predict: [('forest', 0.17391304347826086), ('highway', 0.14130434782608695), ('street', 0.1390870185449358), ('tall_bldg', 0.12318840579710146)
Accuracy Local: 10.87%

```
Image: mountain
Probabilidades: {'Opencountry': 0.15217391304347827, 'coast': 0.080562659846547313, 'forest': 0.24051546391754}
Counter Classes: {'forest': 240, 'Opencountry': 217, 'coast': 110, 'inside_city': 62, 'highway': 10}
Sorted Predict: [('forest', 0.26278772378516624), ('Opencountry', 0.15217391304347827), ('mountain', 0.080562659846547313)]
Accuracy Local: 6.14%


Image: mountain
Probabilidades: {'Opencountry': 0.12740076824583868, 'coast': 0.087708066581306018, 'forest': 0.292051546391754}
Counter Classes: {'forest': 292, 'Opencountry': 179, 'coast': 110, 'inside_city': 74, 'highway': 10}
Sorted Predict: [('forest', 0.30217669654289375), ('Opencountry', 0.12740076824583868), ('mountain', 0.087708066581306018)]
Accuracy Local: 5.38%


Image: mountain
Probabilidades: {'Opencountry': 0.13741935483870968, 'coast': 0.08387096774193549, 'forest': 0.275051546391754}
Counter Classes: {'forest': 275, 'Opencountry': 195, 'coast': 110, 'inside_city': 66, 'mountain': 10}
Sorted Predict: [('forest', 0.28064516129032258), ('Opencountry', 0.13741935483870968), ('mountain', 0.08387096774193549)]
Accuracy Local: 5.94%


Image: mountain
Probabilidades: {'Opencountry': 0.15335051546391754, 'coast': 0.084407216494845366, 'forest': 0.21069587628865979}
Counter Classes: {'Opencountry': 218, 'forest': 206, 'coast': 102, 'inside_city': 79, 'highway': 10}
Sorted Predict: [('forest', 0.21069587628865979), ('Opencountry', 0.15335051546391754), ('mountain', 0.084407216494845366)]
Accuracy Local: 7.47%


Image: mountain
Probabilidades: {'Opencountry': 0.1221264367816092, 'coast': 0.082614942528735635, 'forest': 0.27729885057471265}
Counter Classes: {'forest': 240, 'Opencountry': 154, 'coast': 96, 'inside_city': 63, 'mountain': 10}
Sorted Predict: [('forest', 0.27729885057471265), ('street', 0.13290229885057472), ('mountain', 0.082614942528735635)]
Accuracy Local: 6.47%


Image: mountain
Probabilidades: {'Opencountry': 0.11961367013372957, 'coast': 0.1062407132243685, 'forest': 0.25854383358098071}
Counter Classes: {'forest': 225, 'Opencountry': 151, 'coast': 104, 'inside_city': 63, 'highway': 10}
Sorted Predict: [('forest', 0.25854383358098071), ('mountain', 0.13075780089153047), ('Opencountry', 0.11961367013372957)]
Accuracy Local: 5.65%


Image: mountain
Probabilidades: {'Opencountry': 0.12423312883435583, 'coast': 0.08052147239263803, 'forest': 0.28911042944785276}
Counter Classes: {'forest': 236, 'Opencountry': 147, 'coast': 83, 'inside_city': 61, 'mountain': 10}
Sorted Predict: [('forest', 0.28911042944785276), ('Opencountry', 0.12423312883435583), ('mountain', 0.08052147239263803)]
Accuracy Local: 7.52%


Image: Opencountry
Probabilidades: {'Opencountry': 0.16340621403912542, 'coast': 0.065592635212888384, 'forest': 0.329051546391754}
Counter Classes: {'forest': 329, 'Opencountry': 261, 'coast': 90, 'inside_city': 61, 'highway': 10}
Sorted Predict: [('forest', 0.33659378596087458), ('Opencountry', 0.16340621403912542), ('tall', 0.065592635212888384)]
Accuracy Local: 30.03%
```


Image: Opencountry
Probabilidades: {'Opencountry': 0.14687500000000001, 'coast': 0.08906250000000003, 'forest': 0.08906250000000003
Counter Classes: {'forest': 103, 'Opencountry': 90, 'coast': 49, 'inside_city': 37, 'highway': 21, 'mountain': 11, 'street': 11, 'tall_bldg': 11, 'water': 11
Sorted Predict: [('forest', 0.2874999999999998), ('Opencountry', 0.14687500000000001), ('inside_city', 0.08906250000000003), ('coast', 0.08906250000000003), ('highway', 0.08906250000000003), ('mountain', 0.08906250000000003), ('street', 0.08906250000000003), ('tall_bldg', 0.08906250000000003), ('water', 0.08906250000000003)
Accuracy Local: 28.12%

Image: Opencountry
Probabilidades: {'Opencountry': 0.1533333333333332, 'coast': 0.079259259259259265, 'forest': 0.079259259259259265
Counter Classes: {'forest': 213, 'Opencountry': 192, 'coast': 76, 'inside_city': 64, 'highway': 55, 'mountain': 44, 'street': 44, 'tall_bldg': 44, 'water': 44
Sorted Predict: [('forest', 0.25037037037037035), ('Opencountry', 0.1533333333333332), ('inside_city', 0.079259259259259265), ('coast', 0.079259259259259265), ('highway', 0.079259259259259265), ('mountain', 0.079259259259259265), ('street', 0.079259259259259265), ('tall_bldg', 0.079259259259259265), ('water', 0.079259259259259265)
Accuracy Local: 28.44%

Image: Opencountry
Probabilidades: {'Opencountry': 0.14534883720930233, 'coast': 0.11212624584717608, 'forest': 0.11212624584717608
Counter Classes: {'forest': 171, 'Opencountry': 153, 'coast': 112, 'inside_city': 57, 'highway': 48, 'mountain': 37, 'street': 37, 'tall_bldg': 37, 'water': 37
Sorted Predict: [('forest', 0.24750830564784054), ('Opencountry', 0.14534883720930233), ('inside_city', 0.11212624584717608), ('coast', 0.11212624584717608), ('highway', 0.11212624584717608), ('mountain', 0.11212624584717608), ('street', 0.11212624584717608), ('tall_bldg', 0.11212624584717608), ('water', 0.11212624584717608)
Accuracy Local: 25.42%

Image: Opencountry
Probabilidades: {'Opencountry': 0.14185750636132316, 'coast': 0.095419847328244281, 'forest': 0.095419847328244281
Counter Classes: {'forest': 232, 'Opencountry': 203, 'coast': 113, 'inside_city': 76, 'highway': 67, 'mountain': 56, 'street': 56, 'tall_bldg': 56, 'water': 56
Sorted Predict: [('forest', 0.24745547073791349), ('Opencountry', 0.14185750636132316), ('inside_city', 0.095419847328244281), ('coast', 0.095419847328244281), ('highway', 0.095419847328244281), ('mountain', 0.095419847328244281), ('street', 0.095419847328244281), ('tall_bldg', 0.095419847328244281), ('water', 0.095419847328244281)
Accuracy Local: 25.83%

Image: Opencountry
Probabilidades: {'Opencountry': 0.18089887640449437, 'coast': 0.078651685393258425, 'forest': 0.078651685393258425
Counter Classes: {'Opencountry': 142, 'forest': 131, 'coast': 51, 'inside_city': 40, 'highway': 31, 'mountain': 20, 'street': 20, 'tall_bldg': 20, 'water': 20
Sorted Predict: [('forest', 0.26179775280898876), ('Opencountry', 0.18089887640449437), ('inside_city', 0.078651685393258425), ('coast', 0.078651685393258425), ('highway', 0.078651685393258425), ('mountain', 0.078651685393258425), ('street', 0.078651685393258425), ('tall_bldg', 0.078651685393258425), ('water', 0.078651685393258425)
Accuracy Local: 31.91%

Image: Opencountry
Probabilidades: {'Opencountry': 0.17816091954022989, 'coast': 0.1235632183908046, 'forest': 0.1235632183908046
Counter Classes: {'Opencountry': 56, 'forest': 33, 'coast': 30, 'highway': 19, 'inside_city': 16, 'mountain': 11, 'street': 11, 'tall_bldg': 11, 'water': 11
Sorted Predict: [('Opencountry', 0.17816091954022989), ('forest', 0.15517241379310345), ('inside_city', 0.1235632183908046), ('coast', 0.1235632183908046), ('highway', 0.1235632183908046), ('mountain', 0.1235632183908046), ('street', 0.1235632183908046), ('tall_bldg', 0.1235632183908046), ('water', 0.1235632183908046)
Accuracy Local: 32.18%

Image: Opencountry
Probabilidades: {'Opencountry': 0.17446043165467626, 'coast': 0.081834532374100724, 'forest': 0.081834532374100724
Counter Classes: {'forest': 210, 'Opencountry': 171, 'coast': 74, 'inside_city': 36, 'mountain': 25, 'street': 25, 'tall_bldg': 25, 'water': 25
Sorted Predict: [('forest', 0.33183453237410071), ('Opencountry', 0.17446043165467626), ('inside_city', 0.081834532374100724), ('coast', 0.081834532374100724), ('mountain', 0.081834532374100724), ('street', 0.081834532374100724), ('tall_bldg', 0.081834532374100724), ('water', 0.081834532374100724)
Accuracy Local: 30.76%

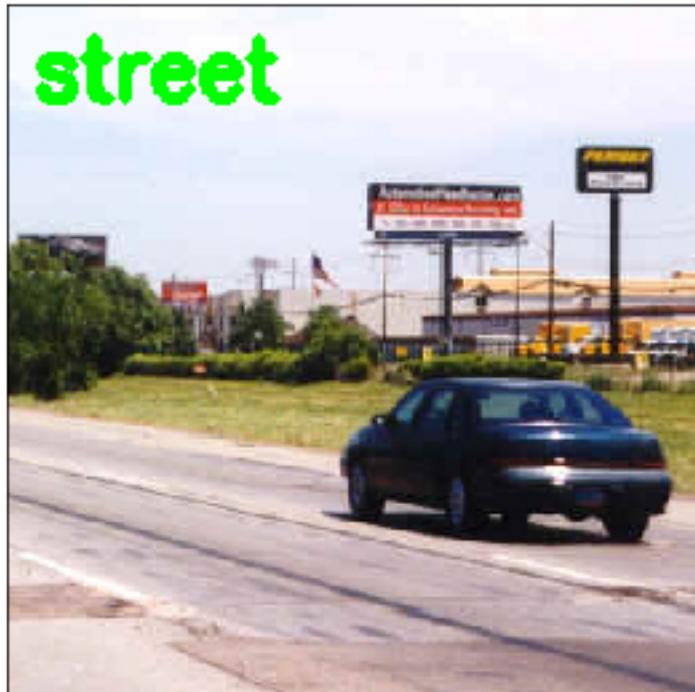
Image: Opencountry
Probabilidades: {'Opencountry': 0.16265060240963855, 'coast': 0.082998661311914329, 'forest': 0.082998661311914329
Counter Classes: {'forest': 238, 'Opencountry': 220, 'coast': 103, 'highway': 55, 'inside_city': 44, 'mountain': 33, 'street': 33, 'tall_bldg': 33, 'water': 33
Sorted Predict: [('forest', 0.26506024096385544), ('Opencountry', 0.16265060240963855), ('inside_city', 0.082998661311914329), ('coast', 0.082998661311914329), ('highway', 0.082998661311914329), ('mountain', 0.082998661311914329), ('street', 0.082998661311914329), ('tall_bldg', 0.082998661311914329), ('water', 0.082998661311914329)
Accuracy Local: 29.45%

Image: Opencountry
Probabilidades: {'Opencountry': 0.15030211480362538, 'coast': 0.10422960725075529, 'forest': 0.0956943927492471, 'inside_city': 0.07500000000000001, 'highway': 0.06500000000000001, 'mountain': 0.05500000000000001, 'water': 0.04500000000000001, 'urban': 0.03500000000000001, 'rural': 0.025000000000000003, 'suburban': 0.015000000000000002, 'desert': 0.005000000000000001, 'wetland': 0.0010000000000000002}
Counter Classes: {'Opencountry': 187, 'forest': 162, 'coast': 104, 'inside_city': 70, 'highway': 65, 'mountain': 55, 'water': 50, 'urban': 46, 'rural': 31, 'suburban': 30, 'desert': 25, 'wetland': 15}
Sorted Predict: [('forest', 0.19864048338368581), ('Opencountry', 0.15030211480362538), ('inside_city', 0.1425233644859813), ('highway', 0.14018691588785046), ('water', 0.13377816291161179), ('mountain', 0.12500000000000002), ('suburban', 0.12000000000000001), ('desert', 0.11500000000000001), ('rural', 0.11000000000000001), ('wetland', 0.10500000000000001), ('urban', 0.10000000000000001), ('coast', 0.09500000000000001), ('opencountry', 0.09000000000000001), ('forest', 0.08500000000000001), ('water', 0.08000000000000001), ('highway', 0.07500000000000001), ('mountain', 0.07000000000000001), ('suburban', 0.06500000000000001), ('desert', 0.06000000000000001), ('rural', 0.05500000000000001), ('wetland', 0.05000000000000001), ('urban', 0.04500000000000001), ('coast', 0.04000000000000001), ('opencountry', 0.03500000000000001), ('forest', 0.03000000000000001), ('water', 0.02500000000000001), ('highway', 0.02000000000000001), ('mountain', 0.015000000000000002), ('suburban', 0.010000000000000002), ('desert', 0.005000000000000001), ('rural', 0.0010000000000000002)}
Accuracy Local: 28.25%

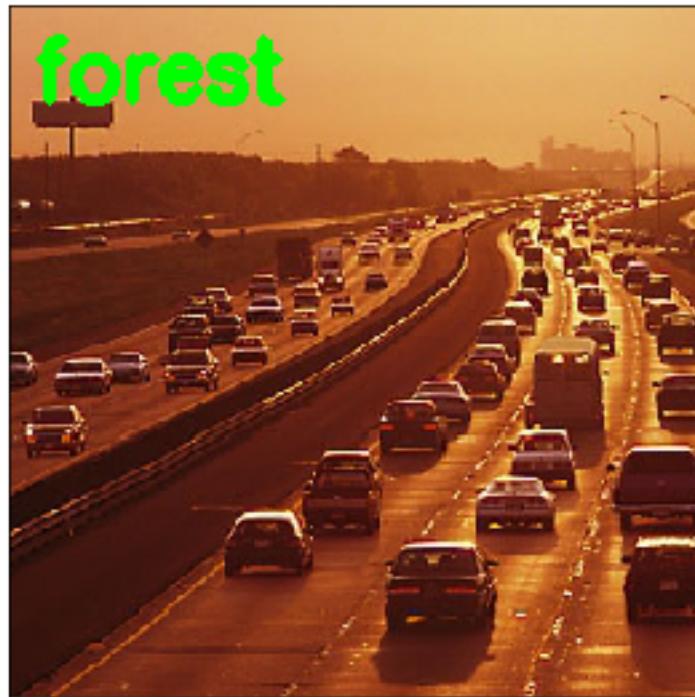
Image: Opencountry
Probabilidades: {'Opencountry': 0.14018691588785046, 'coast': 0.086448598130841117, 'forest': 0.08000000000000001, 'inside_city': 0.07500000000000001, 'highway': 0.07000000000000001, 'mountain': 0.06500000000000001, 'water': 0.06000000000000001, 'urban': 0.05500000000000001, 'rural': 0.05000000000000001, 'suburban': 0.04500000000000001, 'desert': 0.04000000000000001, 'wetland': 0.035000000000000004}
Counter Classes: {'forest': 55, 'Opencountry': 55, 'coast': 31, 'inside_city': 30, 'highway': 28, 'mountain': 25, 'water': 20, 'urban': 19, 'rural': 15, 'suburban': 14, 'desert': 10, 'wetland': 5}
Sorted Predict: [('forest', 0.18691588785046728), ('inside_city', 0.1425233644859813), ('Opencountry', 0.14018691588785046), ('highway', 0.13377816291161179), ('water', 0.12500000000000002), ('mountain', 0.12000000000000001), ('suburban', 0.11500000000000001), ('desert', 0.11000000000000001), ('rural', 0.10500000000000001), ('wetland', 0.10000000000000001), ('urban', 0.09500000000000001), ('coast', 0.09000000000000001), ('opencountry', 0.08500000000000001), ('forest', 0.08000000000000001), ('water', 0.07500000000000001), ('highway', 0.07000000000000001), ('mountain', 0.06500000000000001), ('suburban', 0.06000000000000001), ('desert', 0.05500000000000001), ('rural', 0.05000000000000001), ('wetland', 0.04500000000000001), ('urban', 0.04000000000000001), ('coast', 0.03500000000000001), ('opencountry', 0.03000000000000001), ('forest', 0.02500000000000001), ('water', 0.02000000000000001), ('highway', 0.015000000000000002), ('mountain', 0.010000000000000002), ('suburban', 0.005000000000000001), ('desert', 0.0010000000000000002)}
Accuracy Local: 25.70%

Image: Opencountry
Probabilidades: {'Opencountry': 0.16377816291161179, 'coast': 0.076256499133448868, 'forest': 0.07000000000000001, 'inside_city': 0.06500000000000001, 'highway': 0.06000000000000001, 'mountain': 0.05500000000000001, 'water': 0.05000000000000001, 'urban': 0.04500000000000001, 'rural': 0.04000000000000001, 'suburban': 0.03500000000000001, 'desert': 0.03000000000000001, 'wetland': 0.025000000000000004}
Counter Classes: {'forest': 195, 'Opencountry': 175, 'coast': 63, 'inside_city': 46, 'highway': 42, 'mountain': 38, 'water': 34, 'urban': 30, 'rural': 26, 'suburban': 22, 'desert': 18, 'wetland': 10}
Sorted Predict: [('forest', 0.28336221837088388), ('Opencountry', 0.16377816291161179), ('highway', 0.13377816291161179), ('water', 0.12500000000000002), ('mountain', 0.12000000000000001), ('suburban', 0.11500000000000001), ('desert', 0.11000000000000001), ('rural', 0.10500000000000001), ('wetland', 0.10000000000000001), ('urban', 0.09500000000000001), ('coast', 0.09000000000000001), ('opencountry', 0.08500000000000001), ('forest', 0.08000000000000001), ('water', 0.07500000000000001), ('highway', 0.07000000000000001), ('mountain', 0.06500000000000001), ('suburban', 0.06000000000000001), ('desert', 0.05500000000000001), ('rural', 0.05000000000000001), ('wetland', 0.04500000000000001), ('urban', 0.04000000000000001), ('coast', 0.03500000000000001), ('opencountry', 0.03000000000000001), ('forest', 0.02500000000000001), ('water', 0.02000000000000001), ('highway', 0.015000000000000002), ('mountain', 0.010000000000000002), ('suburban', 0.005000000000000001), ('desert', 0.0010000000000000002)}
Accuracy Local: 30.33%

Accuracy Global: 35.00%





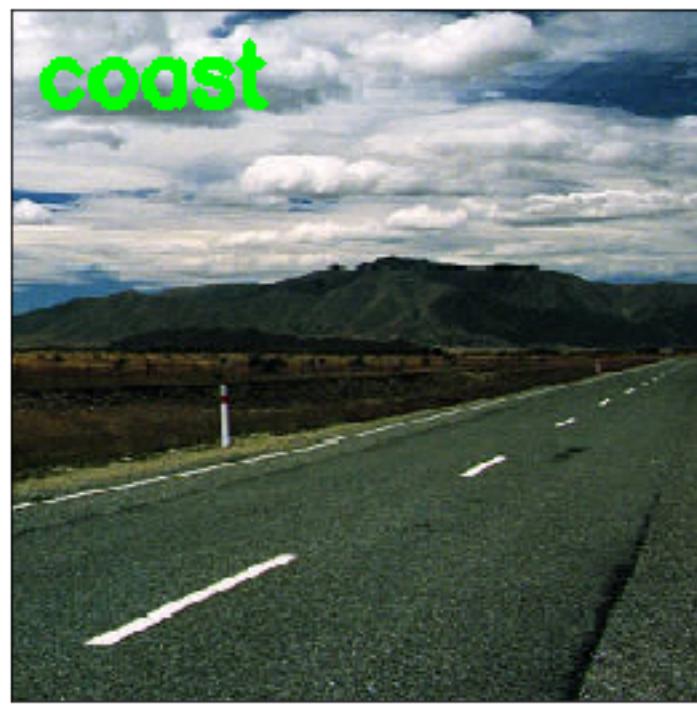


forest

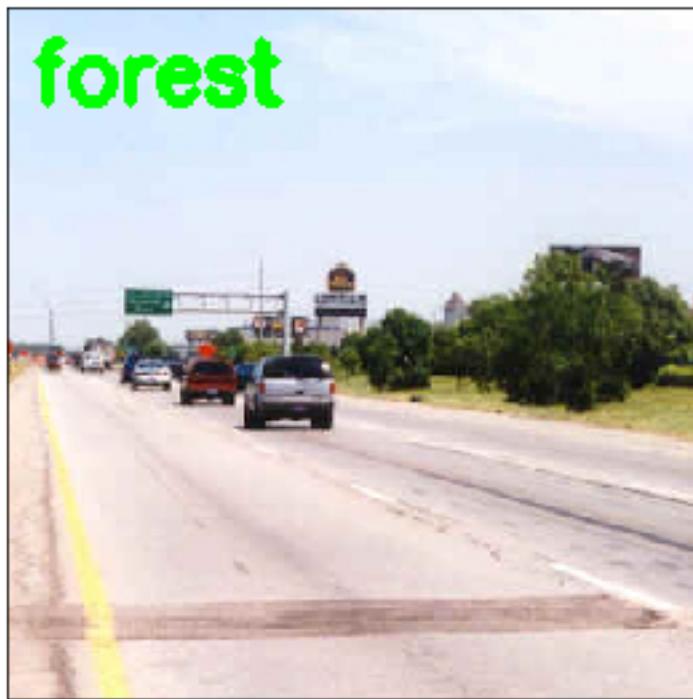


inside_city

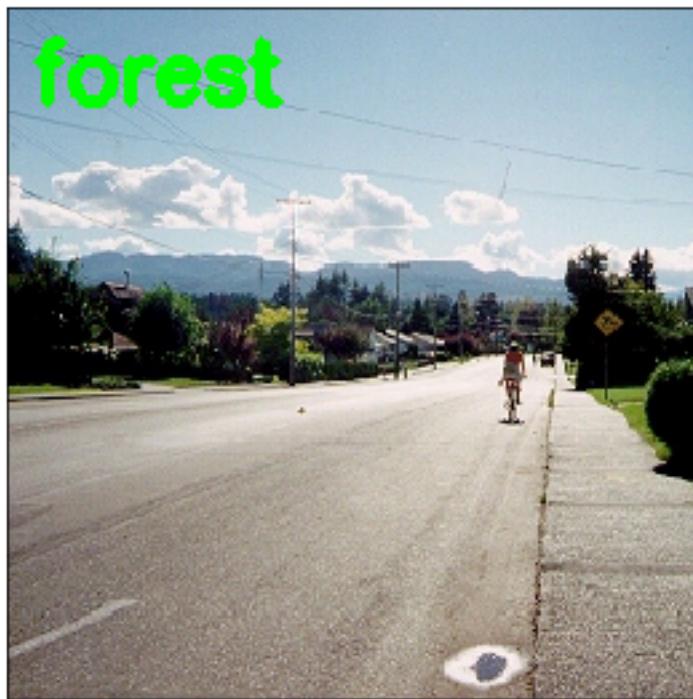


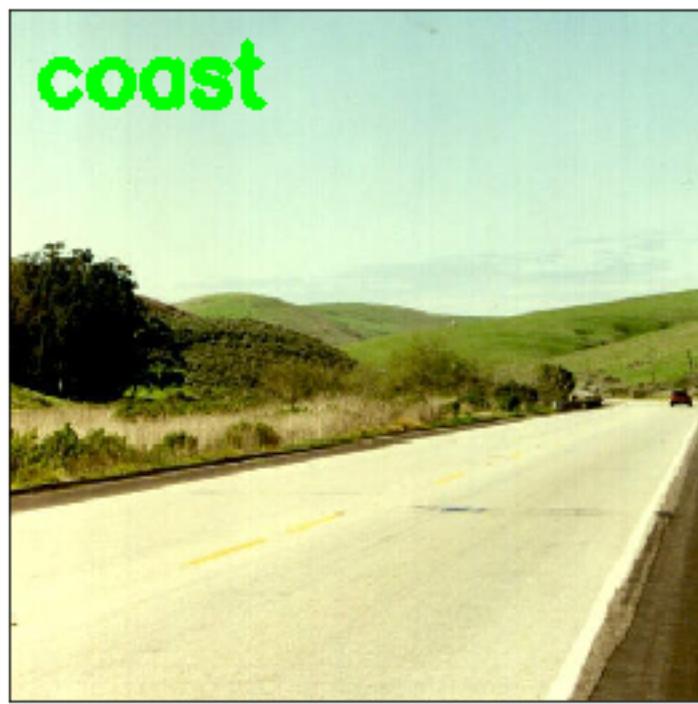


forest

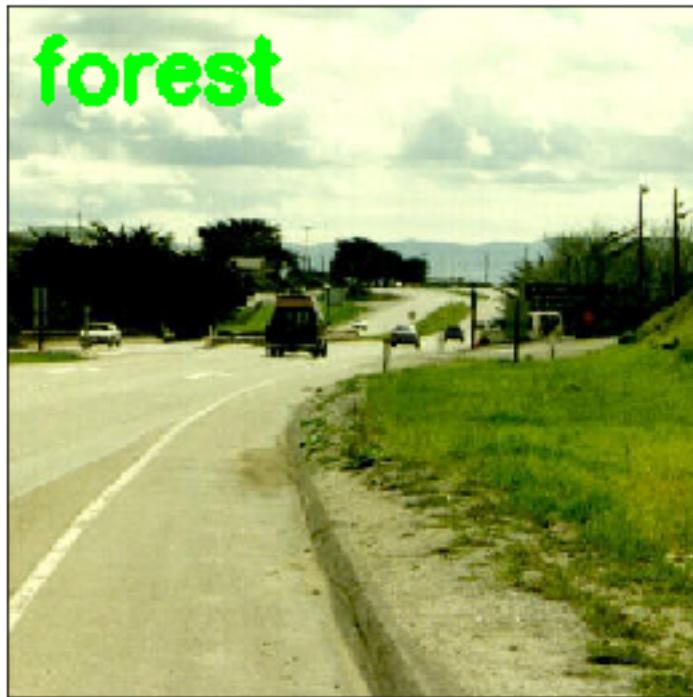


forest





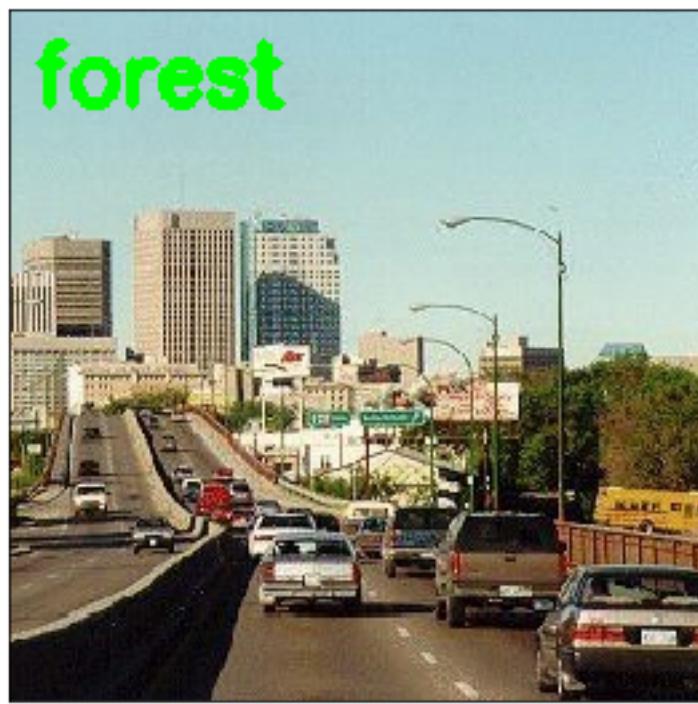
forest



inside_city













forest





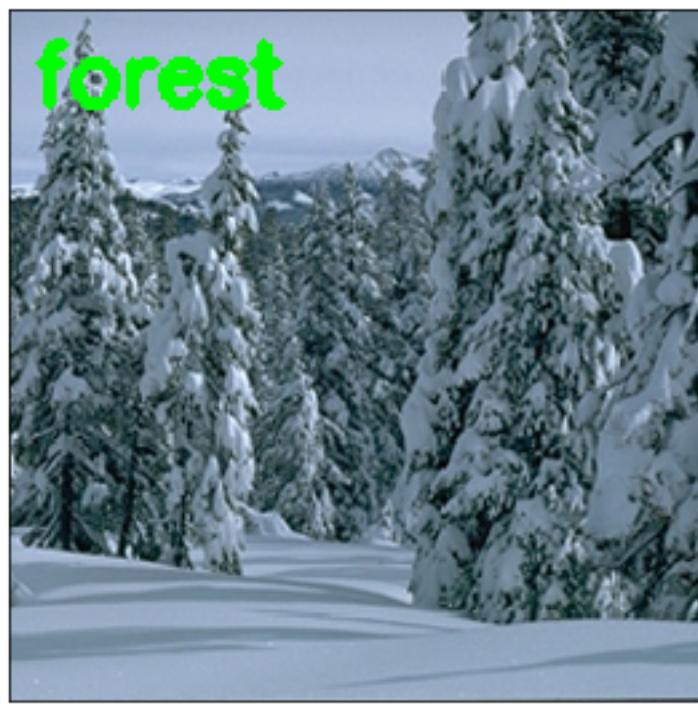


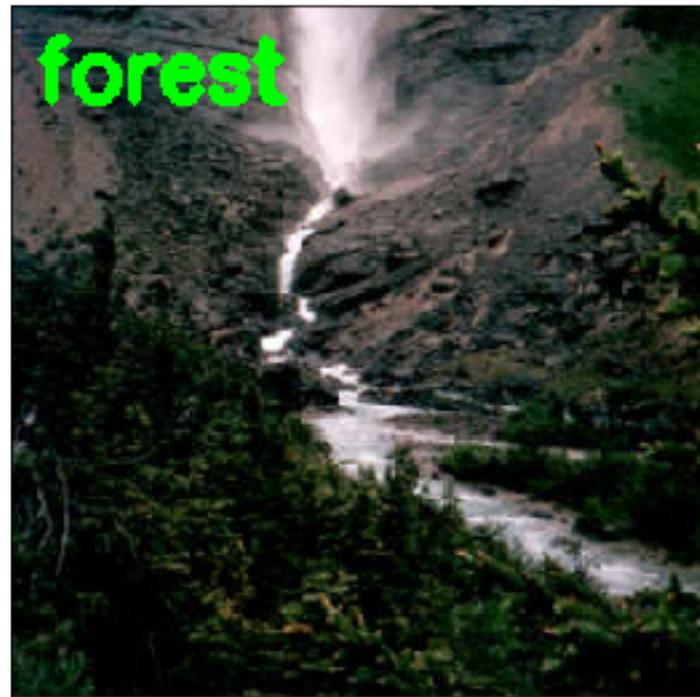


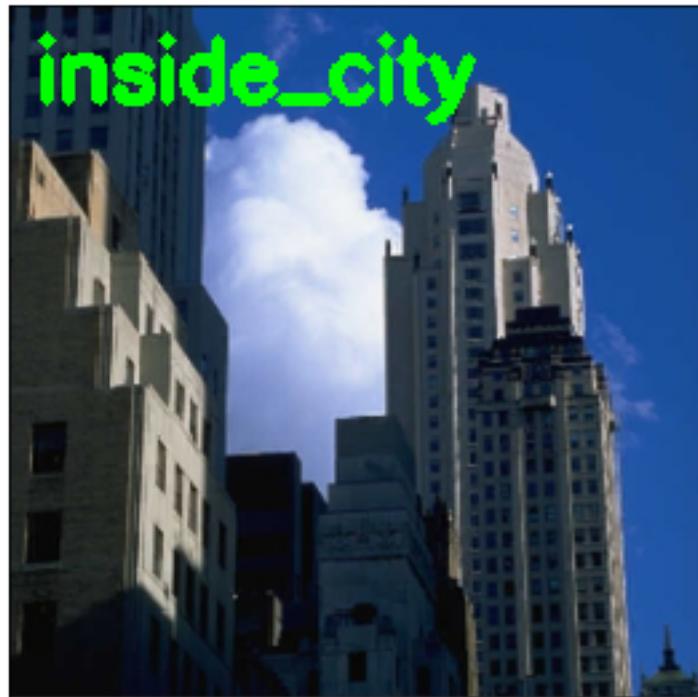


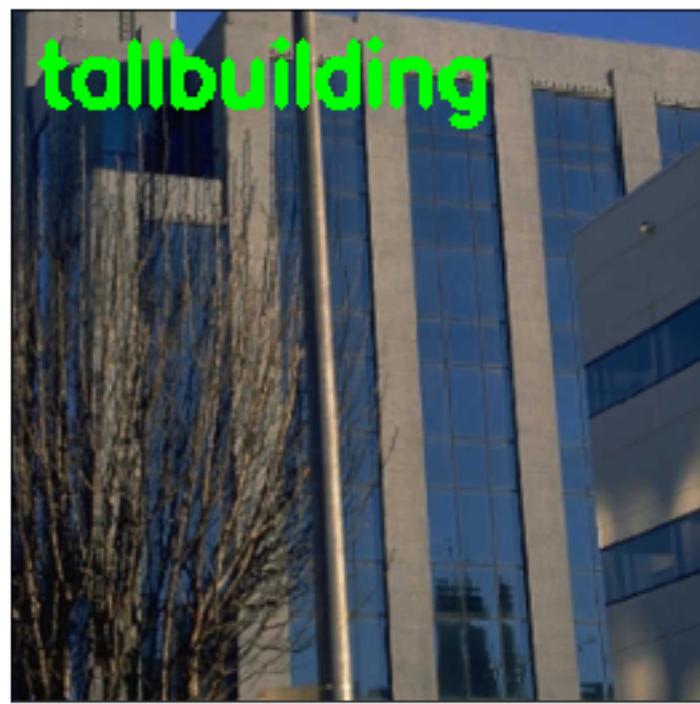










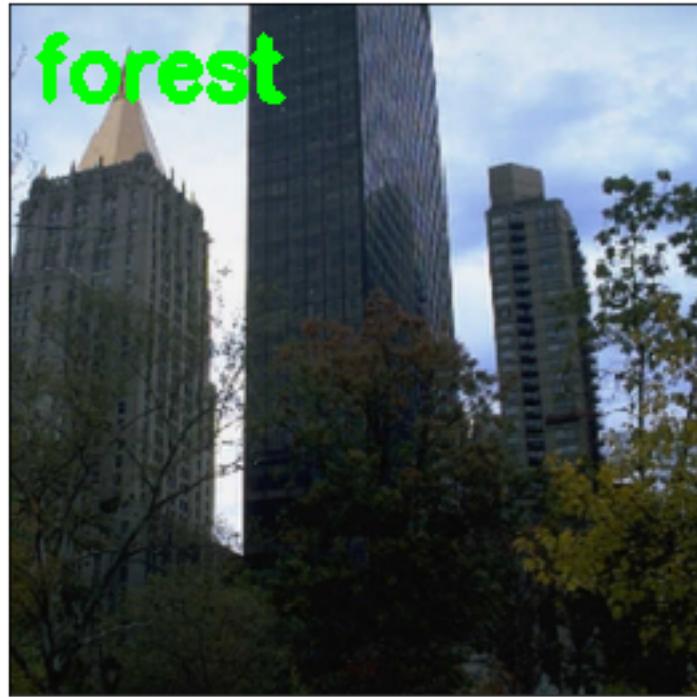


inside_city

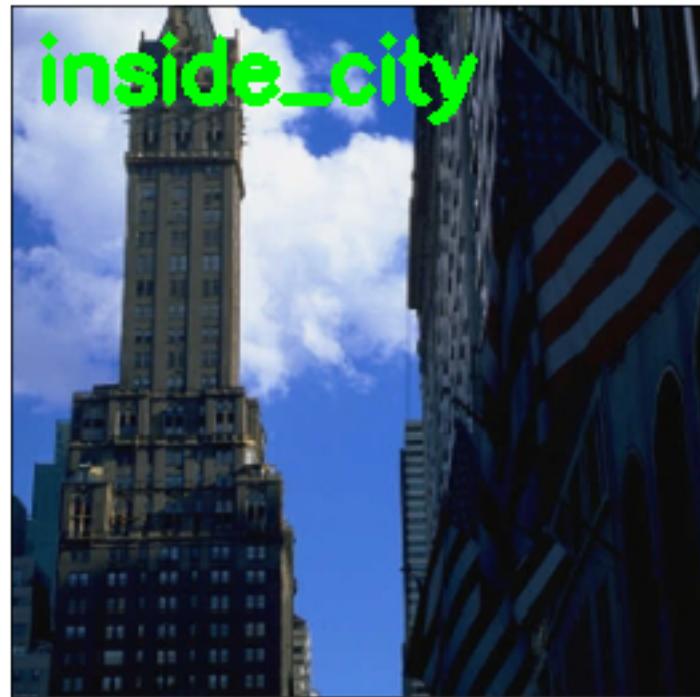


tallbuilding

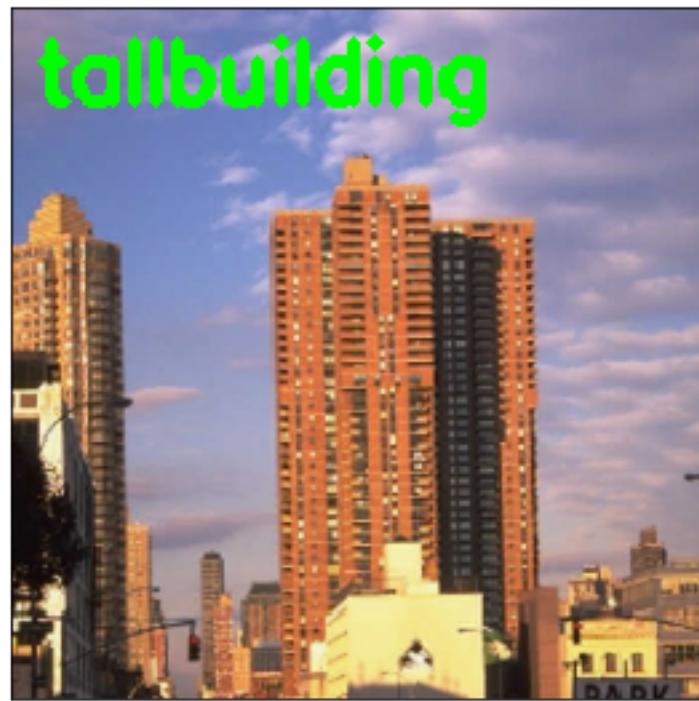


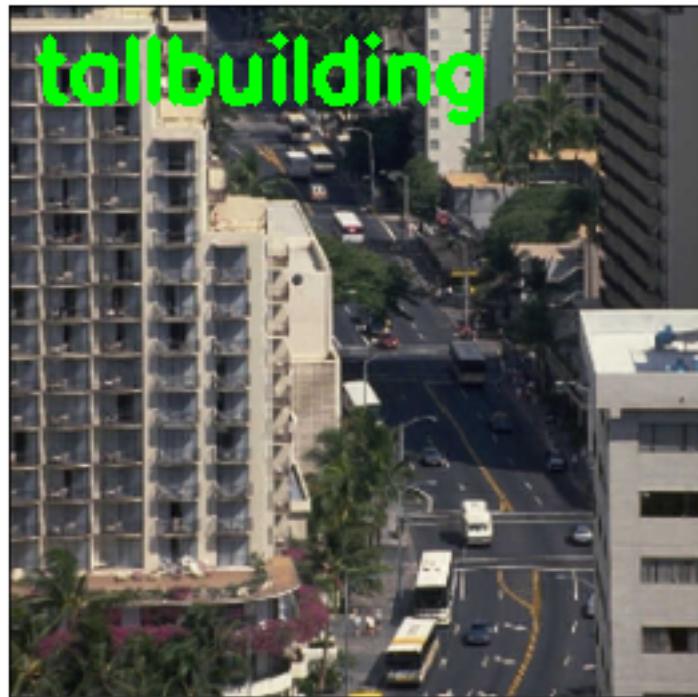


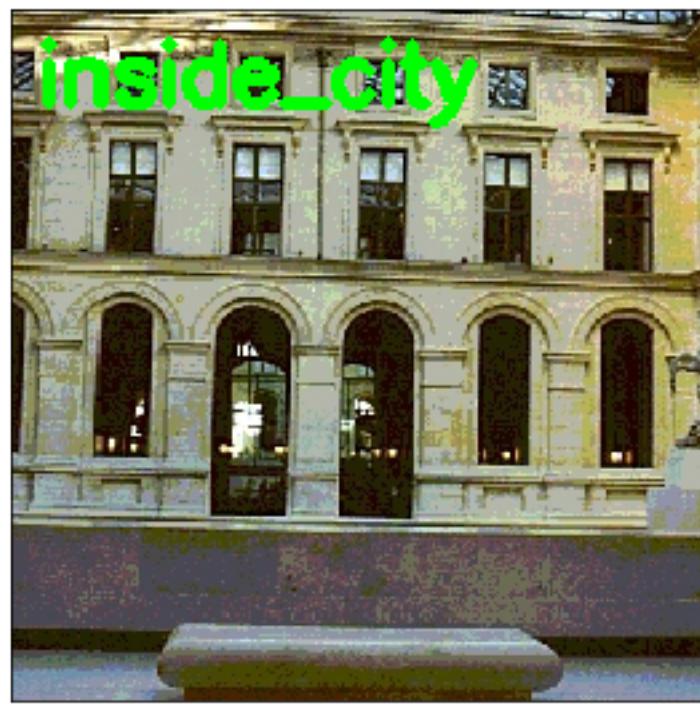


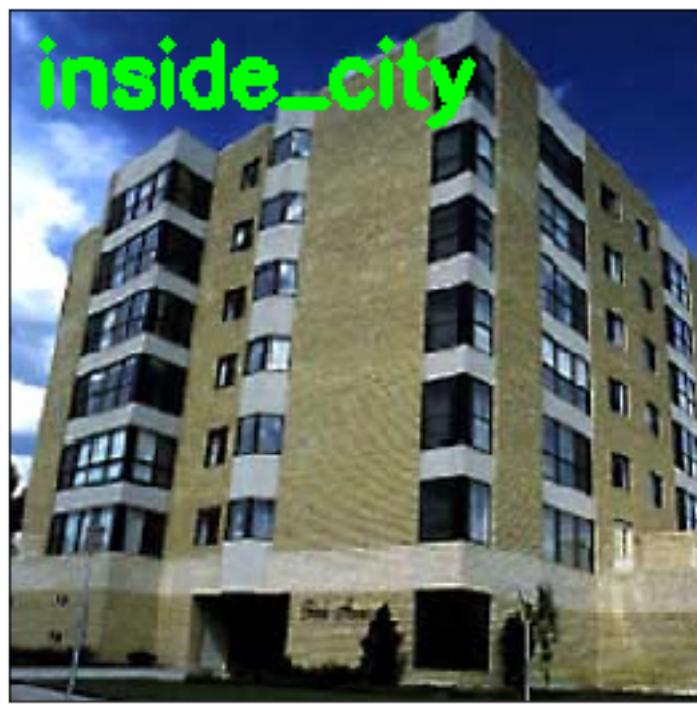










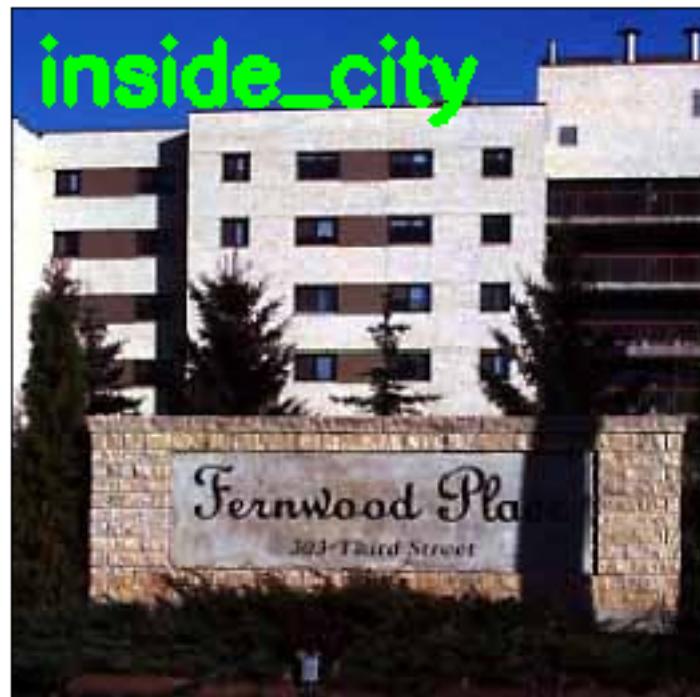


inside_city

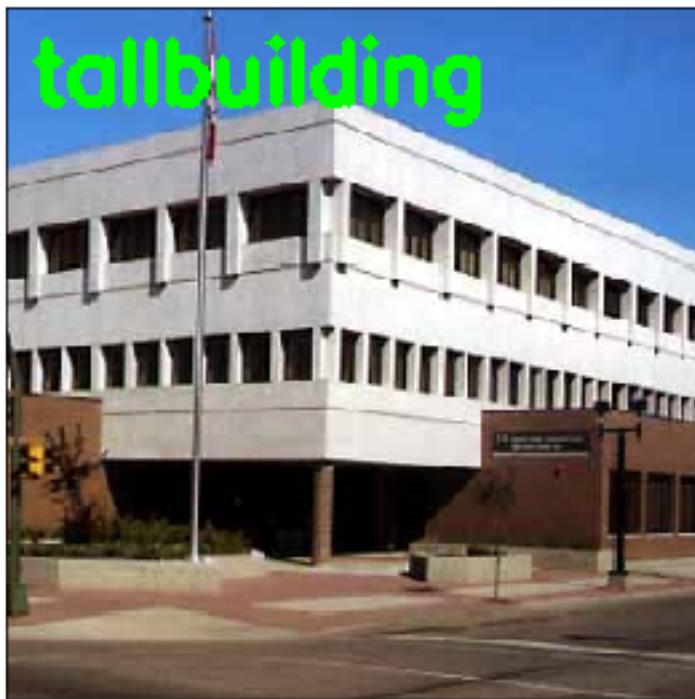
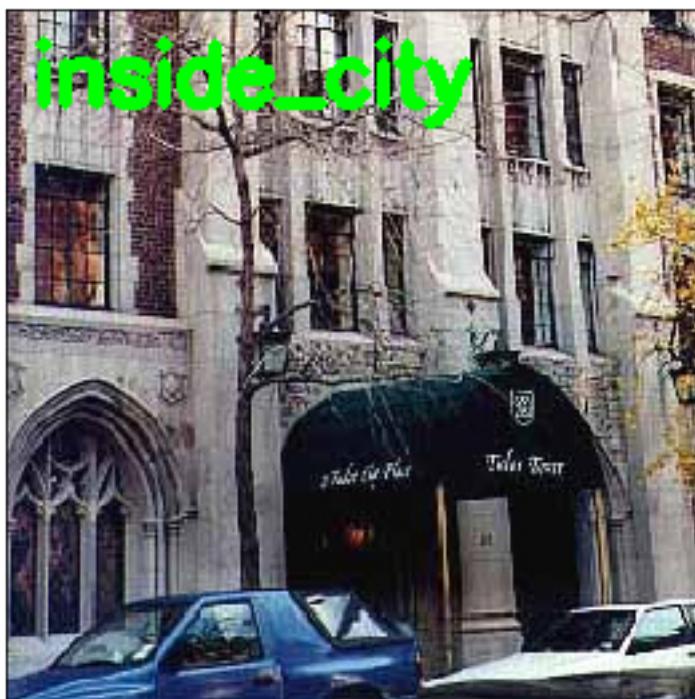


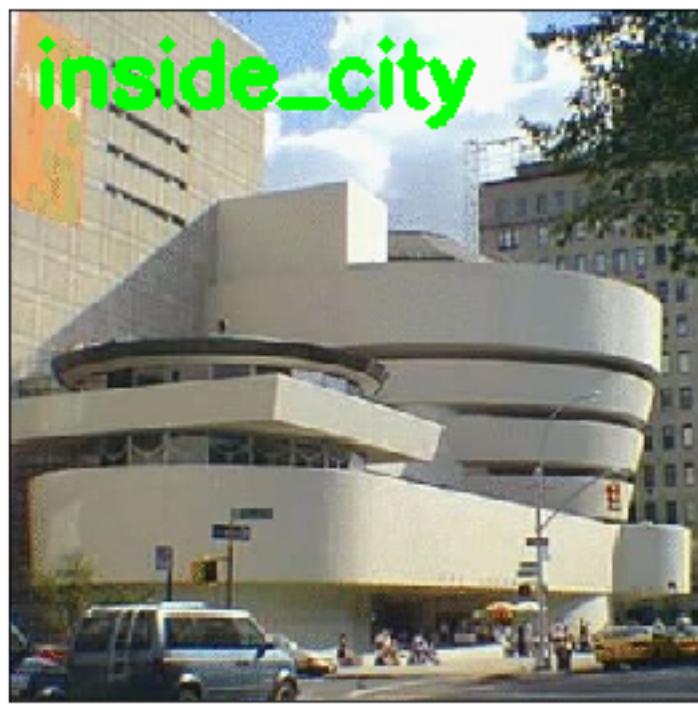
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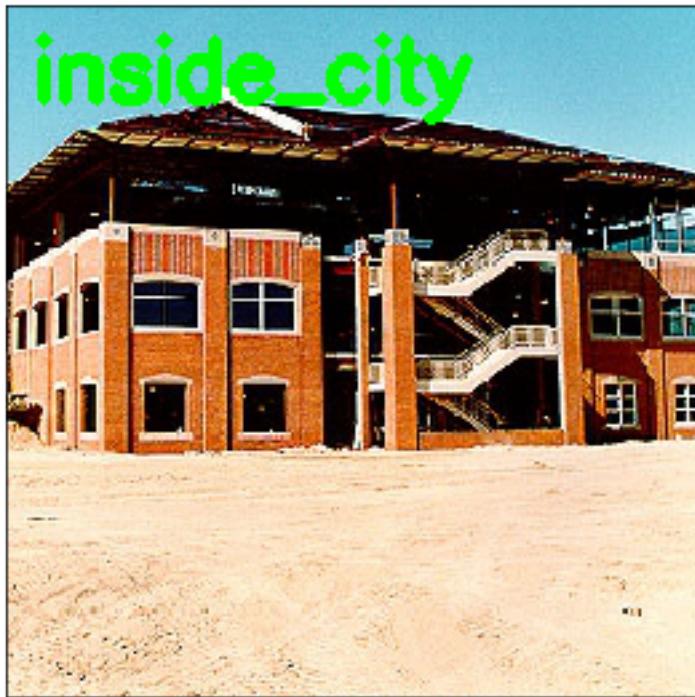


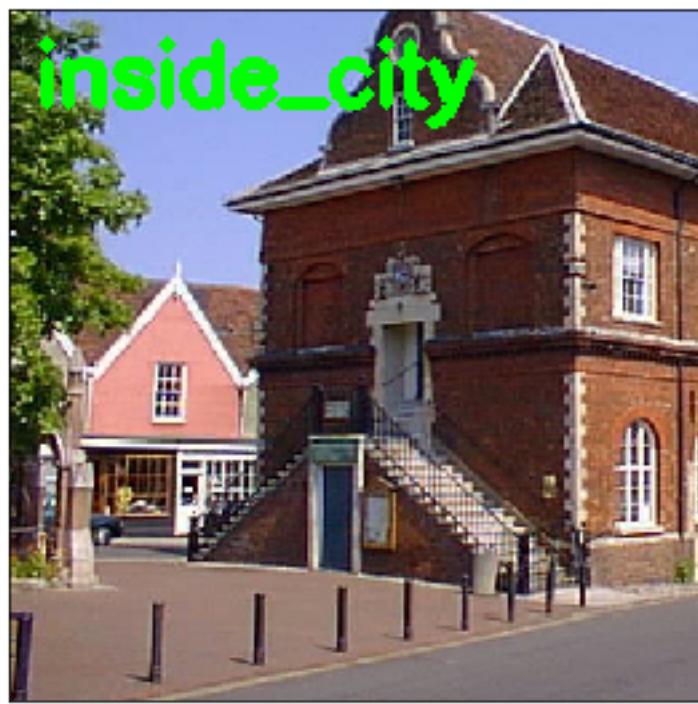


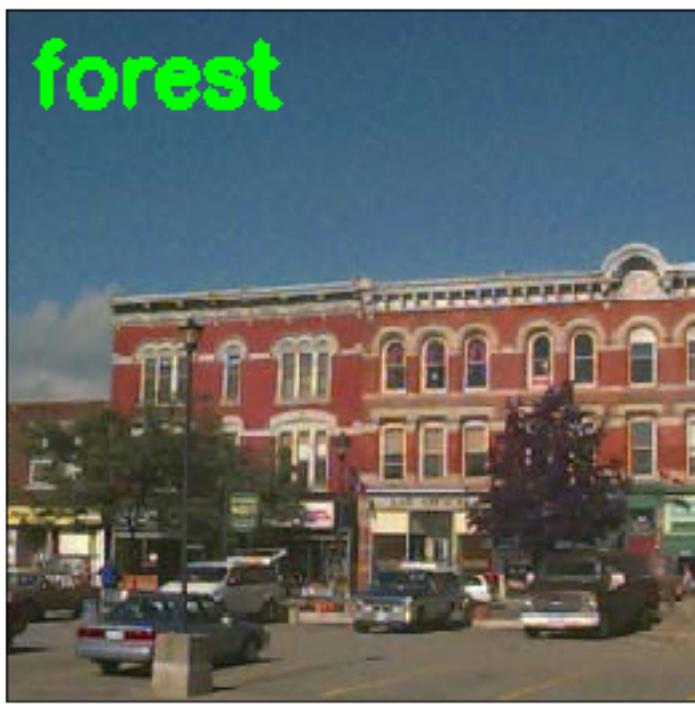












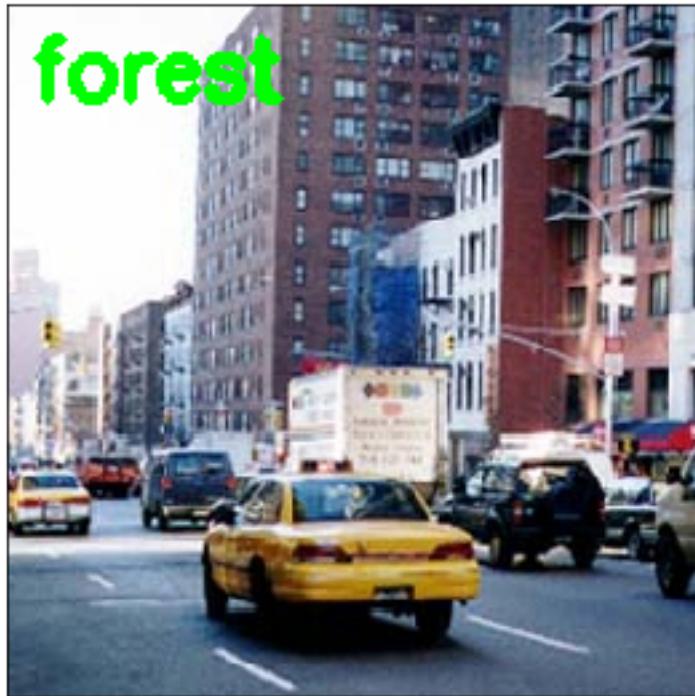


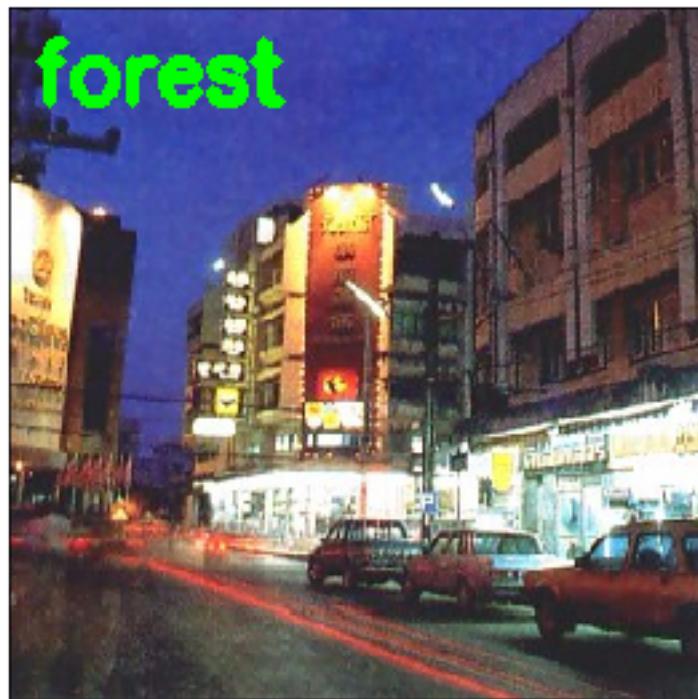


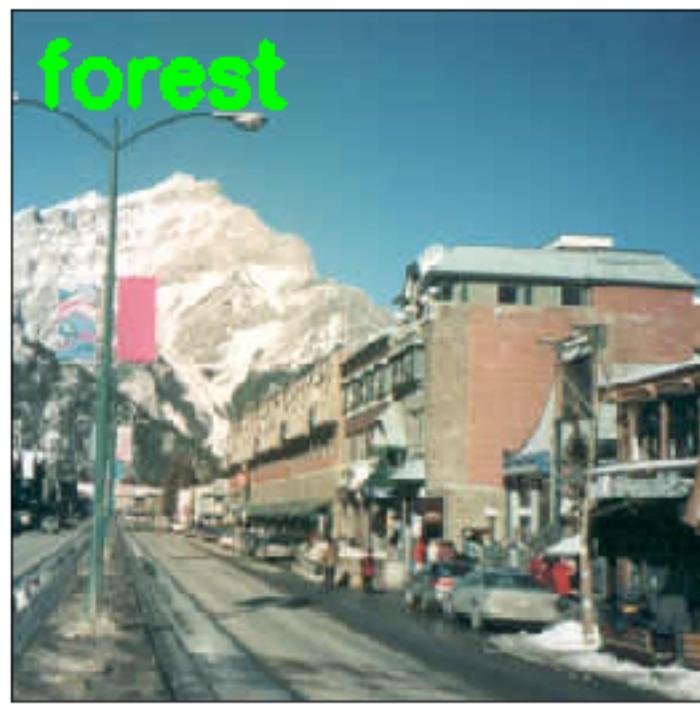
street



forest









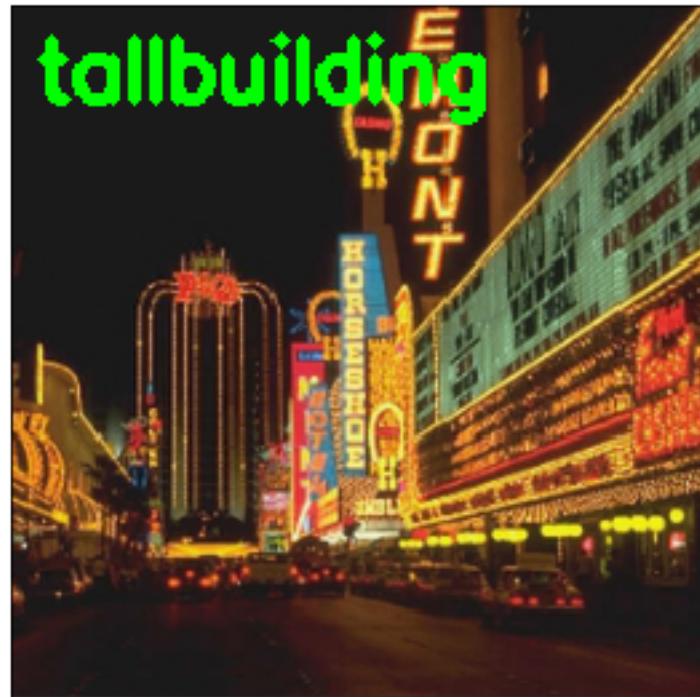
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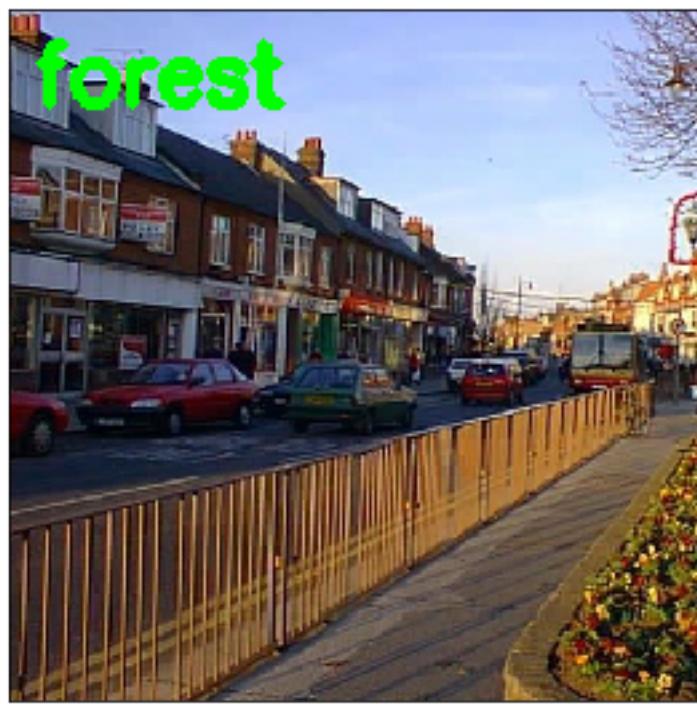


forest









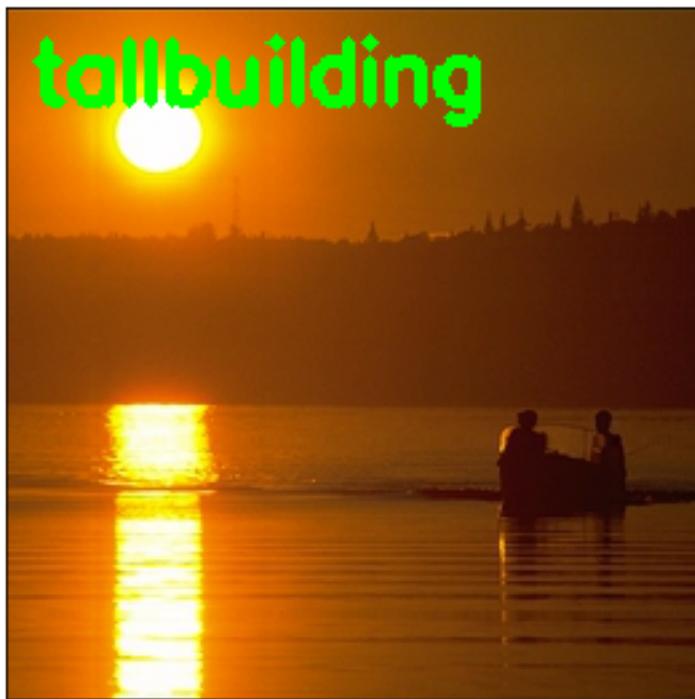


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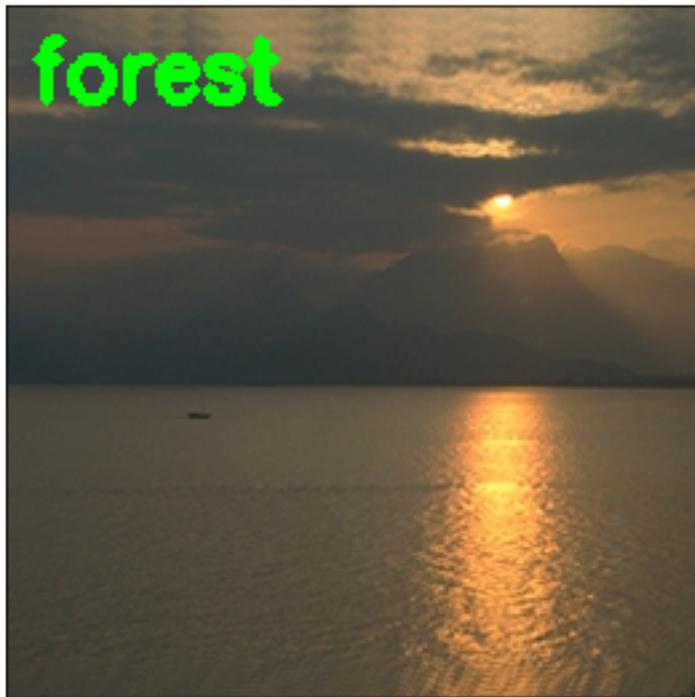


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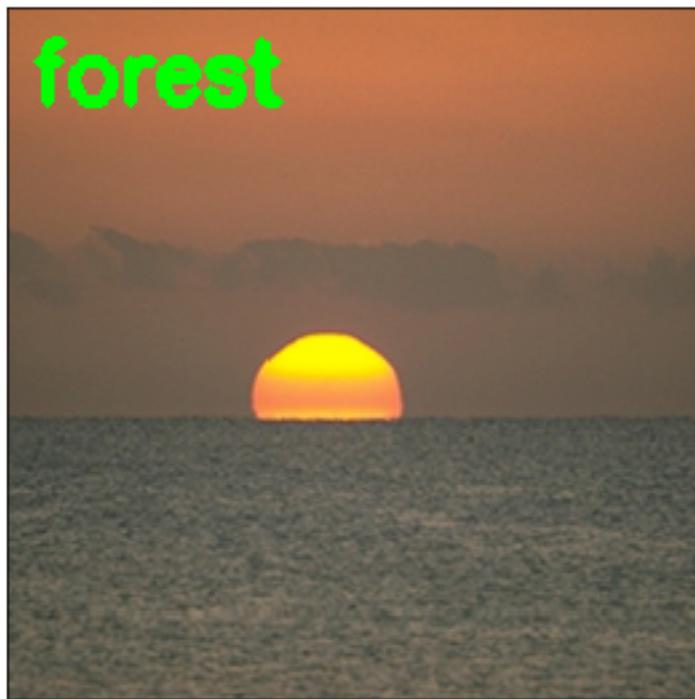
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coast



forest



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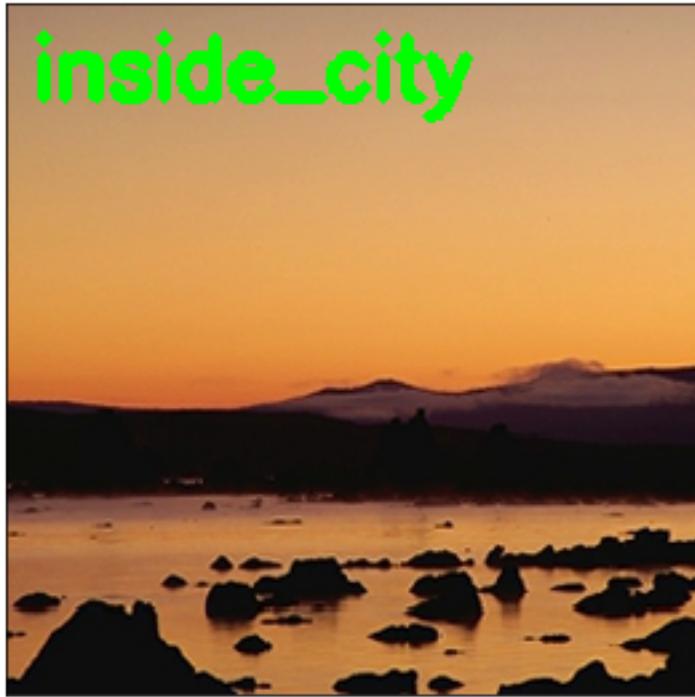


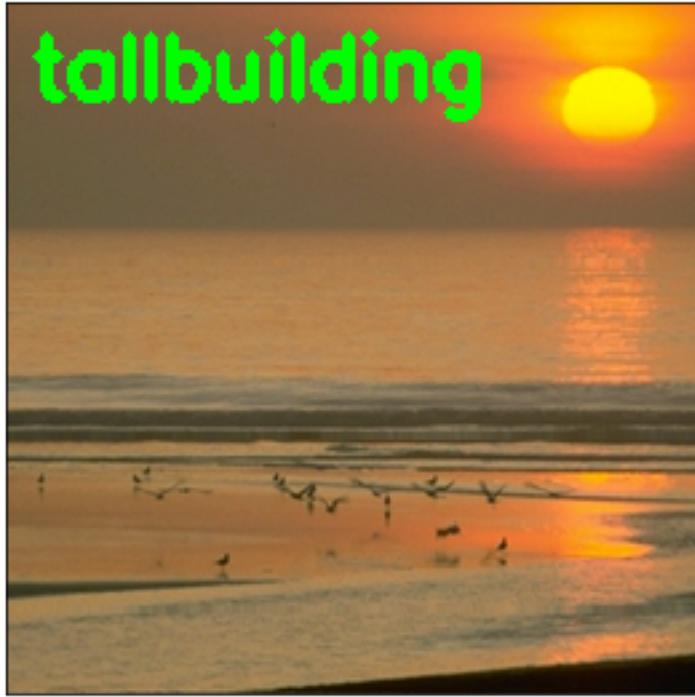
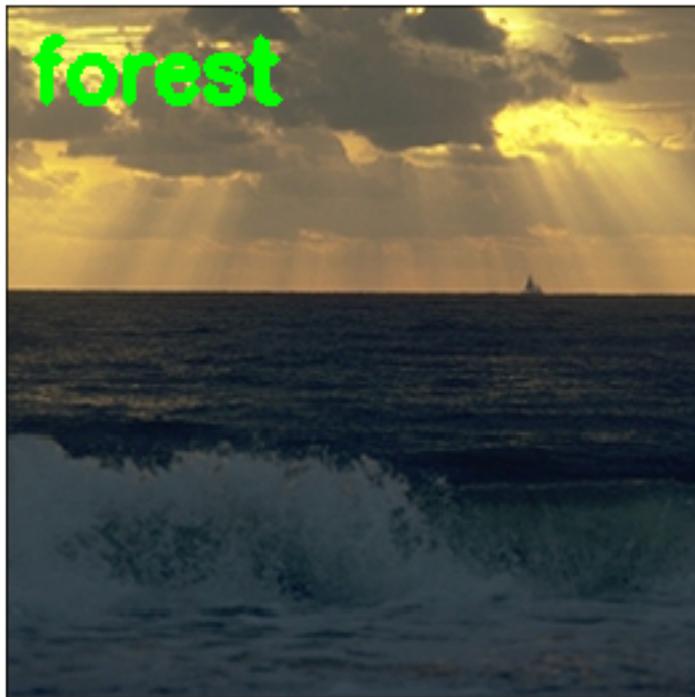
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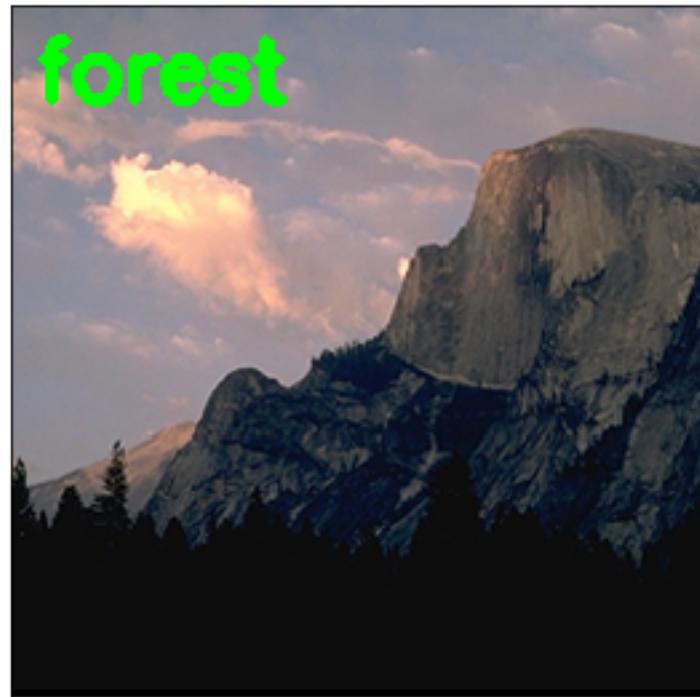




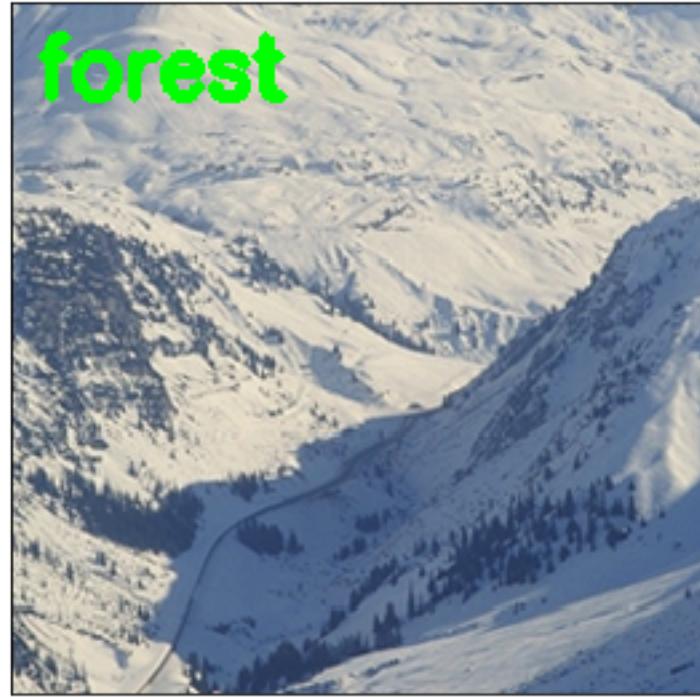


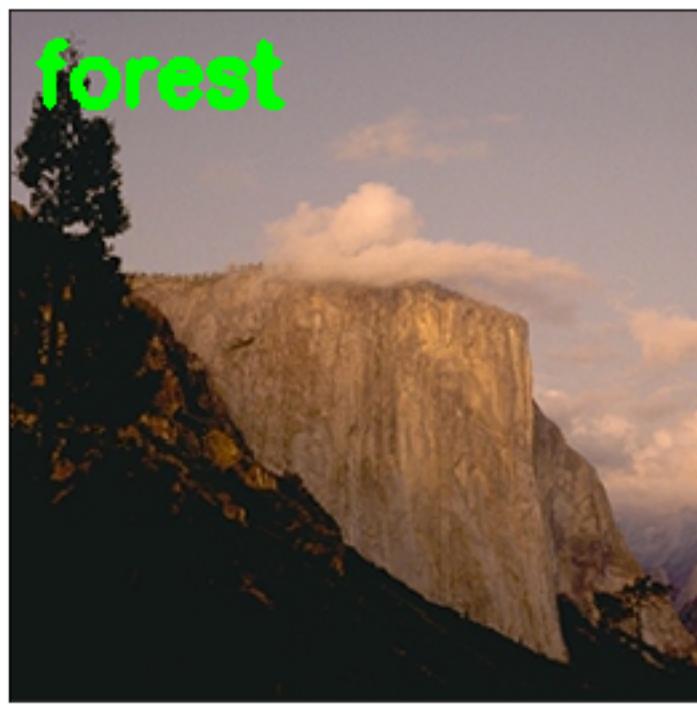






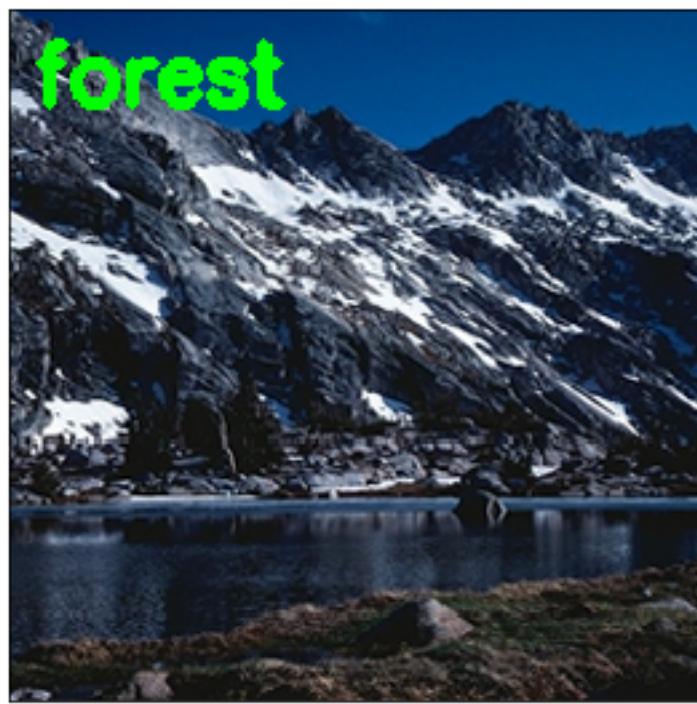


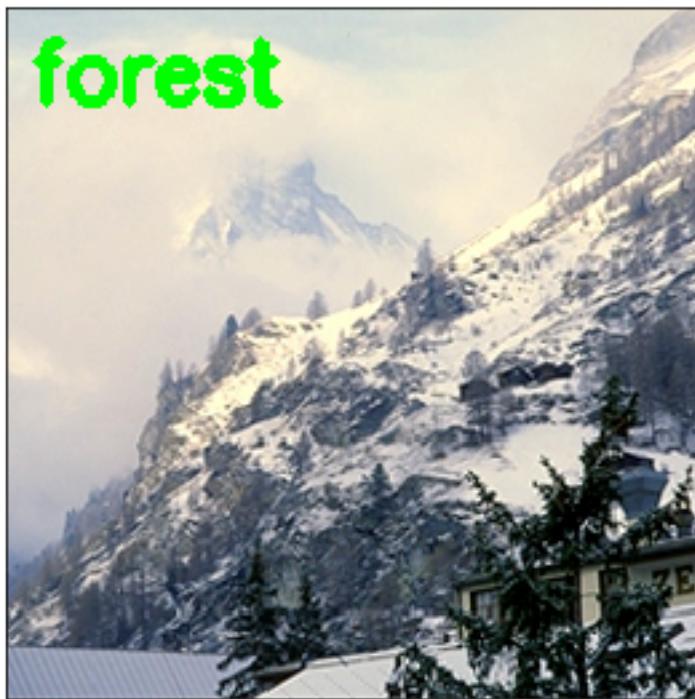




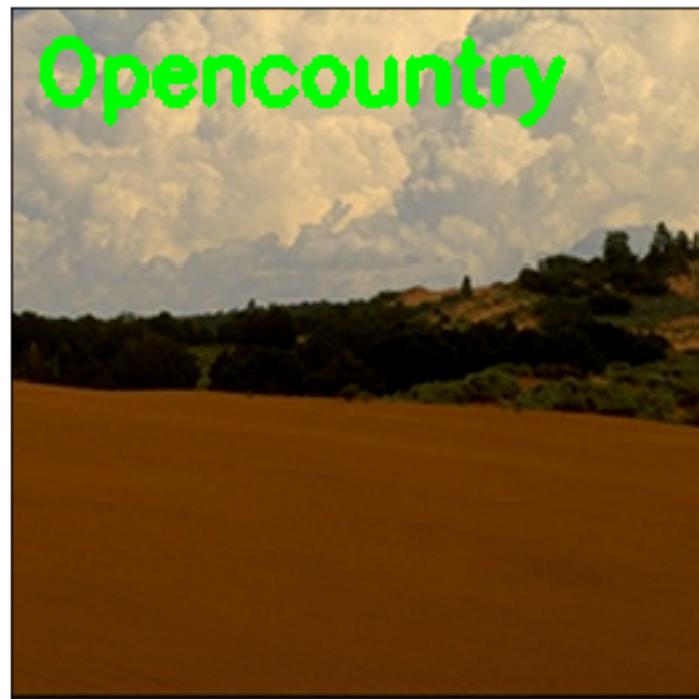


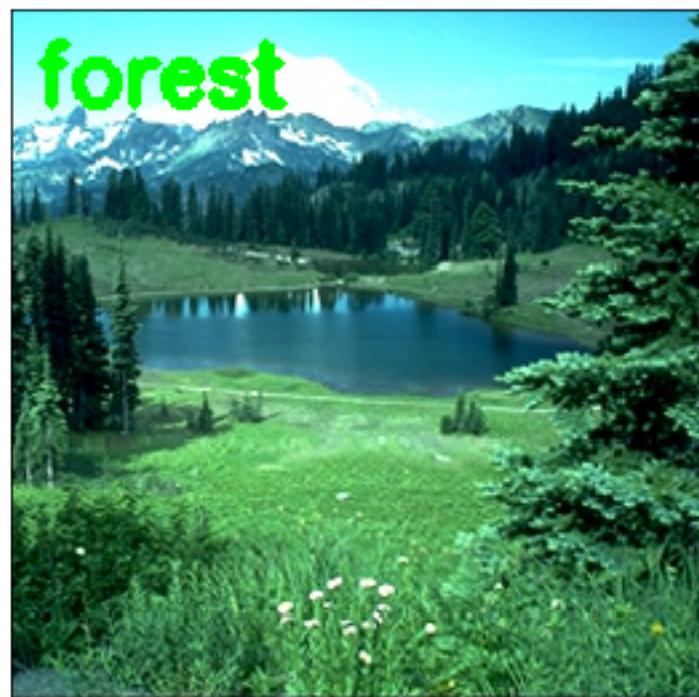


























forest