Lab6: Project Progress Report

Guanfang Dong ,Yingnan Ma

Five Tasks:

(Priority)

1. Find the dataset and input the dataset to opencv library. (Done)

   Method implement :main()
   Main function can handle the dataset input and frames extraction from the videos.

2. To save runtime, we start calculating the optical flow between two frames. (Done)

   Method implement :main()
   Main function also calculate the optical flow and print the result of optical flow in the end.

```
[ evaluate      OF_two_images      . py ]
[[[-1.34701700e+01  1.59061563e+00]
  [-1.34901247e+01  1.76855266e+00]
  [-1.34268665e+01  1.98534632e+00]
  ...
  [-9.70723057e+00  2.38937545e+00]
  [-8.75471783e+00  2.16519237e+00]
  [-6.55399275e+00  1.65038490e+00]]

 [[-1.32111464e+01  1.69359171e+00]
  [-1.32550993e+01  1.82307065e+00]
  [-1.32221460e+01  2.00281715e+00]
  ...
```
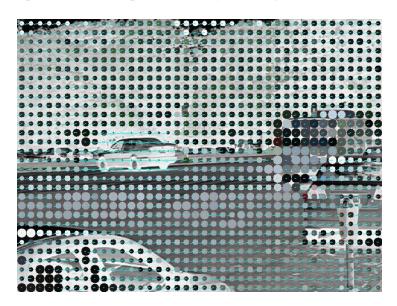
3. Visualize the optical flow at a gray image. (Done)

   Method implement :draw_flow(img, gray, flow, step)
   Reference: https://www.digifie.jp/blog/archives/1448
   This function will visualize the optical flow between the two frames. The img and gray are two COLOR_BGR2GRAY images. Flow is the result of optical flow, represented by a (height*width*2) matrix.

   (Optional)
4. Extend the optical flow calculation method to the video. (In progress)
   For this task, we will calculate the optical flow for the frames in video, not only the first two video.

5. Visualize the optical flow as playing the video. (In progress)
   For this task, after we get the optical flow results for video, we will visualize the results.

Github:
https://github.com/guanfangdong/Background_Subtraction_with_a_Freely_Moving_Camera