Project 1 guidelines- Lane detection

As been discussed in class, our first project will be all about autonomous vehicles: lane detection.

This project is meant for you to build your first CV oriented algorithm which will include all class' materials until now, including:

- Least squares/ Hough transform
- Canny
- Image manipulation (including masking, filtering and thresholding)

Guidelines

1. Find a dashcam video of a car on a highway and take several seconds from it (at least 10 secs).
2. The final result should be marking on each frame of the lanes to the left and right of the car. Remember the points we had talked about in class:
    - Is there any interesting area of the video you can crop? What assumptions do you use here?
    - how to maximize the threshold so that the lanes will pop out and not other colors of cars and background? What assumptions do you use here?
    - After you find lines in each frame, is there a good way to make sure the lines are actually the lanes? What assumptions do you use here?
3. Groups of up to 3 people.
4. Results expected in a .zip file with the name `project1_ID1_ID2_ID3` with content of:
    - A detailed summary of the work done and assumptions made. Where does your algorithm succeed and where it failed?
    - Code in .py files
    - The output video in a reasonable format.
5. Submission is due 3 weeks from the last class.

Good luck!

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