Homework Assignment 1: Convolutional Neural Networks (CNNs) for Image Classification

Deadline: Sunday, Feb. 11th at 5 pm.

Assignment Overview:
In Homework 1 (100 points in total), you will be tasked with implementing CNNs for the classification of objects, specifically focusing on car images. This assignment consists of two parts, HW 1-1 (25 points), and HW 1-2 (75 points). In HW 1-1, you will collect car images meeting specific criteria to build your dataset.

HW 1-1: Data Collection
For this part of the assignment, you are required to gather images of sedans and pickup trucks. Follow the guidelines below for image collection:

Image Categories: Collect a total of 50 images for each of the following categories:

Sedans (50 images) and Pickup trucks (50 images)

Image Sources: Capture these images using your cellphone camera. Do not download images from the internet or any other external sources.

Image Directions: Images can be taken from various angles, including front, side, and rear views of the vehicles.

Image Quality: Ensure that the images are of high quality, with proper brightness (avoid extremely dark conditions, such as nighttime).

Background Variation: Include images with different backgrounds to provide diversity in your dataset.

Single Vehicle Focus: Capture images where only a single car is the primary subject. ~~It is acceptable if a small part of another car appears in the background~~.

Privacy Considerations: Ensure that there are no human faces in the images to address privacy concerns.

Image Format: Submit the collected images in JPG format.

Size and File Limits: There are no restrictions on image size or file size. Feel free to capture images at the resolution that you find suitable.

Accessible Google drive link: If you submit a Google drive link, should make sure if the link is accessible by us. If I can't access it when I grade, it will be a zero point.

Never take a picture while driving!!!

Your completed image collection for HW 1-1 will serve as the foundation for the subsequent CNN classification task in HW 1-2. Please ensure that you adhere to the specified guidelines while collecting and submitting your images.