Assignment 3

For the third assignment (Total Points: 125), you are required to do the following:

Prequisites:

You should already have the following setup:

- A working jupyter notebook environment
- A stable Python environment with Pytorch, OpenCV, Matplotlib and other dependencies.

Setting up a stable environment for coding is your responsibility.

Deadline: May 11th, 2025 11:59 PM

Please fill in the cells with `TODO` in the `hw3.ipynb` file. You will be graded based on the following:

1. Simple network with fully connected/linear layers [Total Points: 25]
2. A CNN architecture with convolutions, max or average pooling and fully connected layers [Total Points: 25]
3. Training function [Total Points: 15]
4. Function to save model weights [Total Points: 5]
5. Codes to test the two models [Total Points: 5]
6. Answers to questions in the end. [Total Points: 25]

Note For every step, add your comments as directed. Failure to do so would result in some penalty.

Deliverables and Submission Guidelines:

There are 2 deliverables for this assignment.

- The jupyter notebook `hw3.ipynb` with your saved output.
- Write-up for questions in the end as a pdf or word file. Also attach screenshots of your model training in the document. **Naming convention: John_Doe_Assignment2.pdf or John_Doe_Assignment2.docx**
- Email your submissions (as a zipped file) to me. If you use github repos for submission, make sure it is not public and add me as a collaborator.
- Always reference/cite your online resources for codes and write-ups. Failure to do so would result in penalty.