ASSIGNMENT-2

Objective： Implement an image classification model using a Convolutional Neural Network (CNN) in PyTorch. You are free to choose any image classification dataset for this task (e.g., CIFAR-10, MNIST, Fashion-MNIST, etc.).

Key Requirements:

1. **CNN Architecture:**
    - Implement a CNN with at least two convolutional layers, ReLU activation, and max pooling layers.
    - Experiment with the architecture (e.g., number of layers, filter sizes) and hyperparameters (e.g., learning rate, batch size) to improve performance.
    - Use an appropriate loss function (e.g., Cross Entropy Loss) and optimizer (e.g., Adam or SGD).
2. **Dataset Selection:**
    - Choose an image classification dataset that is suitable for your model (you can use well-known datasets such as CIFAR-10, MNIST, Fashion-MNIST, or any other dataset of your choice).
3. **Training and Evaluation:**
    - Train the model on the selected dataset and evaluate its accuracy on a test set.
    - Report the classification accuracy achieved after training the model.

Optional Extension (Pretrained CNN Model):

- As an optional extension, consider utilizing a pretrained model (e.g., ResNet, VGG, etc.) from the PyTorch model zoo. Fine-tune it for your chosen dataset and compare its performance with your custom CNN.