

Objective:

The task is to develop, train, and deploy a machine learning model using PyTorch. You will work with the CIFAR10 dataset to build a convolutional neural network (CNN), optimize it, and create an inference script that can process new data batches efficiently.

Key Pointers:

- **Model Development:** Building a modular CNN with a focus on efficient tensor manipulation using `einops`.
- **Model Training:** Training the model on the CIFAR10 dataset, monitoring performance metrics, and saving the best model.
- **Deployment:** Writing a script to load the trained model and perform batch inference on new images, optimizing the model for faster inference.
- **Documentation:** Providing clear setup instructions, usage guidelines for the inference script, and well-commented code.

Expected Outcome:

A fully developed and trained CNN model with an inference script that can handle new data batches. The project should be well-documented, demonstrating your ability to apply machine learning techniques in a practical scenario. Also, make a video of the output console and share the github link of task.

Deadline: 31 August 2024 , 5:00 PM