

**DL/DLOps (2023)**  
**Lab Assignment 8: Weights & Biases [100 Marks]**  
**Deadline: 17/04/2023, 23:59:59**

**There will be a 25% penalty for each day of late submission.**

---

**Guidelines for submission:**

1. Perform all tasks in a single colab file.
2. The colab file should be named appropriately with your complete roll number(ex: "B19EE036\_Lab\_Assignment\_7.ipynb").
3. Submit a well-documented report with the requested observations. Name the report properly(ex: "B19EE036\_Lab\_Assignment\_7.pdf").
4. Submit a video demonstration showcasing the use of the **wandb library** and the **"weights & biases"** online tool for the analysis explaining the complete codeflow. Please limit your video demonstrations to a maximum of 3 minutes. Name the file properly(ex: "B19EE036\_demo.mp4").
5. Write compact code with proper comments.
6. Strict disciplinary action will be taken if indulged in plagiarism.

---

**Question 1 [100 marks]**

Train a ResNet18 model for classification on even classes of CIFAR-10 (for students with even roll no)/ odd classes of FashionMNIST (for students with odd roll no) for 30 epochs. Analyze the training of model using wandb library and "weights & biases" tool covered in the class.

- 1) Show comparison of the performance of the hyperparameter tuning using plots using the "weights & biases" tool. Hyperparameters: choice of activation function, optimizer
- 2) Write the observations about GPU (like GPU utilization, temperature etc).
- 3) Show all the logs about accuracy, loss using plots using "weights & biases" tool
- 4) Generate the report of the entire experiment using the "weights & biases" tool. Attach this report to your assignment report.
- 5) Add a visual result analysis on the "weights & biases" tool taught by to Dr Anush, where he shows the prediction for different images. Include this in the assignment video in addition to the other demonstrations.

**Note:** The comparison should be done at least between 3-4 models (resulting from the choice of hyperparameters)

**Reference:**

<https://wandb.ai/site>