DA 312, Advanced Machine Learning Laboratory

Lab 6 (Spring 2025)

Instructor:	Dr. Chiranjib Sur	**Time:**	Wednesday - 9:00-11:00 (MDSAI Lab)
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Problem 1: [10+10+20+20+20+10+5+5 marks]

Consider the following Dataset

https://www.kaggle.com/datasets/paultimothymooney/chest-xray-pneumonia

1. Using this dataset, explore and create a detailed report of the class and image examples. Use Jupyter Notebook to create.
2. This dataset is related to a disease and must be modeled with recall, precision, and F1-score. Create a ResNet model for this.
3. Adopt a pre-trained (not ResNet) model for this. No training is required.
4. Finetune a model (not ResNet) for this. Use the pre-trained (not ResNet) model for fine-tuning.
5. Compare the above three and which one is working better, comment on that.
6. Use multiple models and do a comparison.
7. Can you plot the error rate (used for back-propagation) and misclassification error for a training and testing session?
8. Find the plots for the attention of your model on the image.
9. Include TensorBoard (This is for practice).