

Deep Learning For Leaf Disease categorization
Week -1 Assignment
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Instruction: In this assignment, you will download the Pima diabetes dataset and build a basic ANN binary classifier in both Keras and Pytorch. Preprocess and tune the hyperparameters for better accuracy.

Dataset Link: [CLICK HERE](#)

Part A

1. Load the dataset using pandas and explore the various features of the dataset
2. Plot chart of the labels values
3. Create a heatmap of different features from the dataset.

Part B

1. Build ANN models with 3 layers, 4 layers, and 5 layers, and note the accuracies.
2. Split the test set into 30%, 40%, and 10% and build the model.
3. Build a model with and without Dropout and BatchNorm and check the difference in accuracies.
4. Check the change in accuracies for when the "NaN" in the data frame is replaced by "0", mean, and when completely removed.
5. Train the model with any 3 different batch sizes and check the accuracies.
6. Train models for 10, 50, 100 , 200 epochs.

Part C

1. Create a confusion metrics and classification report and note F1 score, Recall, and precision.
2. Make a table of Accuracies vs Various Hyperparameters used and arrive at the hyperparameters for achieving the highest accuracy.