**CMPE 480 Project 3**

**Decision Tree Implementation**

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1. **Project Description**

The aim of the project is to develop a decision tree learning algorithm to classify different types of flowers by using a data which contains numerical attributes such as length and width of different parts of the flowers.

Also, we are expected to report/plot statistics such as: Training and validation loss with respect to the depth of the trees during training, loss in the test data for each iteration; also giving the means and variances of two different entropy metrics which are information gain and gini impurity.

We are given a data set which consisting of some flower (iris) data. The given data files which has lines in the following format:

<sepal\_length>,<sepal\_width>,<petal\_length>,<petal\_width>,<class>

where <class> has the following values: “Iris Setosa”, “Iris Versicolour”, and “Iris Virginica”.

1. **Design of the Project**
2. **How to Run the Code**
3. **Loss Rates of Test Data**
4. **Loss Rates With Respect to Depth of the Trees**
5. **How to Use the Code for Other Problems**