Hillel Weintraub

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**AI-Neural Nets Write-up**

**Description of Iris Data Set:**

The Iris data set consists of 50 samples from each of three species of Iris flower (Iris setosa, Iris virginica, and Iris versicolor). Each training example has four input attributes and three output attributes. The four inputs are respectively: petal width, petal length, sepal width, and sepal length. The raw data was given in millimeters but I normalized each feature by the largest value for that feature. The outputs represent belonging to one of the three mutually exclusive species named above. I divided the data in half and used the first half for training and the second half for testing.

**Parameters that Provide Good Learning:**

Learning rate: 0.1

Number of epochs: 250

Number of hidden nodes: 10

**Generation of Initial weights:**

I essentially manually copied the initial weights used for the grades data set, adjusting it so that it had the right number of weights for each layer.

**Description of How I modified the Data Set:**

I wrote a program makeirisdata.cpp to format and modify the data set. As stated above, I normalized each feature of the original data set by the highest value of that feature seen in the entire data set, and then split the data in half using the first half for training and the second half for testing. The program also formats the output attributes so that they conform to the required format.

**Source of Data Set:**

<http://www.math.uah.edu/stat/data/Fisher.html>