

Group 5

CS 440

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Visualization: GLC-L

HOW TO USE:

1. Download and run project in Microsoft Visual Studio
2. When prompted to “Enter a csv file path,” enter the absolute path to that csv file.
 - a. If the file isn’t an actual csv file, it still must be formatted as such.
3. When asked if “the first column [is] for ID,” check the dataset for an ID column then answer “y” for yes or “n” for no..
4. When asked if “the last column [is] for class labels,” check the dataset for a class label column then answer “y” for yes or “n” for no.
5. When asked if “the first row [is] for labels,” check the dataset for a labels row then answer “y” for yes or “n” for no.
6. If the file path, file format, and data were valid, a GLC-L visualization will appear. Or, if something went wrong, an error message will appear.

NOTES:

1. The Iris and Breast-Cancer Wisconsin (BCW) datasets can be found in the project's files.
 - a. The BCW dataset has had all invalid rows removed.
2. All data in a dataset will be Min-Max normalized from $[0, 1]$ before being visualized.
3. If everything is valid, the number of dimensions for the dataset will print to the console.
4. If everything is valid, the coefficients used will print to the console.
5. If everything is valid and the dataset has different classes, the different classes and their representative colors will print to the console.
6. Once the visualization is complete "Visualization complete" will print to the console.

EXAMPLES:

1. Console Usage:

```
C:\ D:\Downloads\fig2.10-11\Debug\fig2-10.exe
Enter csv file path: d:\bcw.data

Is the first column for ID? (Y/N)
y

Is the last column for class labels? (Y/N)
y

Is the first row for labels? (Y/N)
n

Min-Max Normalizing Data from [0, 1].

Number of Dimensions: 9
Coefficients Used : 0.53, 0.61, 0.73, 0.55, 0.91, 0.91, 0.62, 0.93

Class Colors are:
    2 = red
    4 = green

Visualization complete.
```

a.

2. Non csv file with csv formatting:

```
bcw.data - Notepad
File Edit Format View Help
1000025,5,1,1,1,2,1,3,1,1,2
1002945,5,4,4,5,7,10,3,2,1,2
1015425,3,1,1,1,2,2,3,1,1,2
1016277,6,8,8,1,3,4,3,7,1,2
1017023,4,1,1,3,2,1,3,1,1,2
1017122,8,10,10,8,7,10,9,7,1,4
1018099,1,1,1,1,2,10,3,1,1,2
1018561,2,1,2,1,2,1,3,1,1,2
1033078,2,1,1,1,2,1,1,1,5,2
1033078,4,2,1,1,2,1,2,1,1,2
1035283,1,1,1,1,1,1,3,1,1,2
1036172,2,1,1,1,2,1,2,1,1,2
1041801,5,3,3,3,2,3,4,4,1,4
```

a.