

CENTRAL WASHINGTON UNIVERSITY

CIRCULAR COORDINATE VISUALIZATION  
SOFTWARE

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## User Manual

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# 1 Format and Type of File Required

The Circular-Coordinate supports .csv files only. The .csv file must be formatted as follow

- the first column contains the indexes for all the entries
- the last column contains the class labels for all the entries
- the first row contains the labels for each column

Below is an example of what the .csv file should look like.

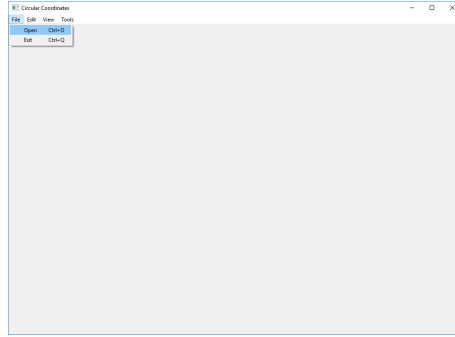
	A	B	C	D	E	F	G	H
1	Case	x1	x2	x3	x4	class		
2	1	5.1	3.5	1.4	0.2	Iris-setosa		
3	2	4.9	3	1.4	0.2	Iris-setosa		
4	3	4.7	3.2	1.3	0.2	Iris-setosa		
5	4	4.6	3.1	1.5	0.2	Iris-setosa		
6	5	5	3.6	1.4	0.2	Iris-setosa		
7	6	5.4	3.9	1.7	0.4	Iris-setosa		
8	7	4.6	3.4	1.4	0.3	Iris-setosa		
9	8	5	3.4	1.5	0.2	Iris-setosa		
10	9	4.4	2.9	1.4	0.2	Iris-setosa		
11	10	4.9	3.1	1.5	0.1	Iris-setosa		
12	11	5.4	3.7	1.5	0.2	Iris-setosa		
13	12	4.8	3.4	1.6	0.2	Iris-setosa		
14	13	4.8	3	1.4	0.1	Iris-setosa		

Figure 1: An example of what the .csv file should look like

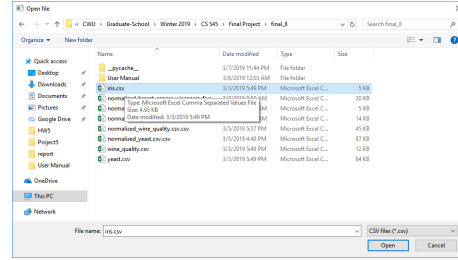
## 2 Load a Data Set

To load a file

- Select "File" on the upper left corner of the main window and then "Open" or press "Ctrl + O" on the keyboard.
- A window will open. Navigate and select the file containing the data which you want to visualize and press "open".



(a) Open File



(b) Select File

Figure 2.

If the steps above were performed properly, a visualization (in the circular coordinate) of the data that you provided will appear on the main window.

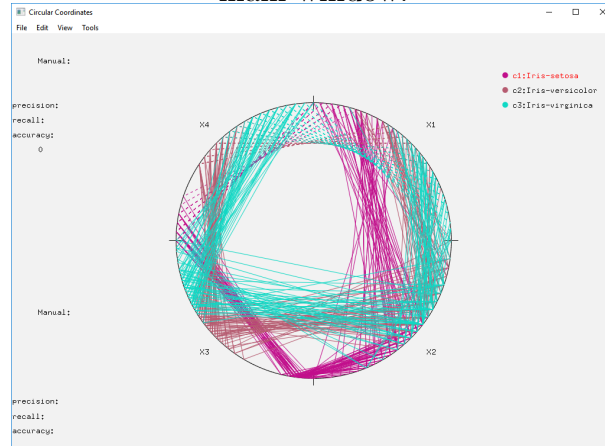


Figure 3. A visualization of the famous Iris data set in the circular coordinate

### 3 The components of the main window

As seen in Figure 3, the main windows contains:

- A confusion matrix along with its corresponding statistics on the upper left corner, for the dominant rectangle that are drawn automatically.

- A confusion matrix along with its corresponding statistics on the lower left corner, for the dominant rectangle that are drawn manually.
- The list of classes on the right upper corner

## 4 Change the colors of the classes

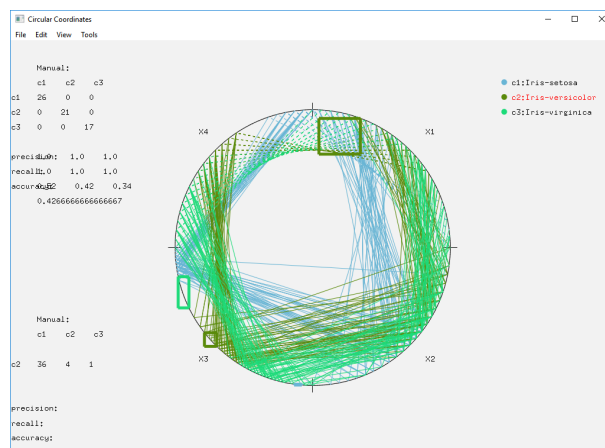
There are 2 ways to change the colors:

- Randomly by pressing the "r" key on the keyboard.
- Manually by selecting "Tools" on the menu bar, then "Set class color" and then select a color. Doing this will change the color of the highlighted class to the color you chose.

## 5 The Dominant Rectangles

There are two ways to draw the dominant rectangles:

- manually by clicking once with the left button of the mouse to set one point of diagonal of the rectangle. Left-clicking the second time will set the second point of the diagonal and a rectangle will be drawn with the color of the highlighted class. (Right clicking will erase the manually drawn rectangle of the highlighted class)
- automatically by pressing the key "d" on the keyboard.



## 6 Other Options

In addition to the functionalities described above, it is also possible to :

- reverse coordinates for better distinction between classes by pressing "X + number" (number being any number from 0 to 9)
- navigate through the classes using arrow keys. if "Enter" is pressed, the selected class will be disabled if it was enabled and enabled if it was disabled.
- erase all the manually drawn dominant rectangle by selecting "Tools", then "Clear rectangles" or pressing "Ctrl + W" on the keyboard