

Mechatronics Engineering and Automation Program

CSE473: Computational Intelligence

Lab Assignment #06



Assignment: Double Moon Data set and Binary Classification

Objective:

You will create a MLNN classifier for the double moon dataset with four points categories pretty like the points visualized below.



Tasks:

1. **Create the data set as shown above.**
 - The number of points can be entered by the user.
 - Label, training, validation, and test points.
2. **Train a MCSVM classifier for the created data.**
 - Visualize the training and validation losses/error.
 - Visualize the decision boundaries.
3. **Train a MLNN classifier for the created data.**
 - Visualize the training and validation losses/error.
 - Visualize the decision boundary.
4. **Compare between the two cases of 2 and 3.**

Submission:

- Submit your Python script (.py file) containing the implementation of the tasks above.
- Ensure your script is well-commented and includes any necessary explanations of your approach and results.