PPGEE2249 Aprendizado de Máquina
Assignment 3
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November 10, 2025

► Question 1

Train and evaluate a Feedforward Neural Network for a multiclass classification task. Split your data into a training set, a validation set (used to define the stopping criterion - e.g., number of epochs), and a test set for the final evaluation of the model. The output layer should use one Softmax neuron per class, and the training objective should be theminimization of cross-entropy loss. Describe your dataset, the network architecture (hidden units, layer dimensions, and number of layers), and discuss the overallperformance (data splitting strategy, classification accuracy, and confusion matrix).

► Question 2

Train and evaluate a Decision Tree on the same classification problem chosen in Question 1. Present the resulting tree (depth, rule-based description) and compare its performance with the results obtained in Question 1.

► Question 3

Perform an experiment testing different kernel functions and hyperparameter configurations to obtain the best SVM classifier for a binary classification task, using adataset of your choice. Don't forget to discuss the results.
