Lab 2 *(due: Jan 31)*
Machine Learning - COSC 4360

Department of Computer Science and Electrical Engineering

Spring 2025

Exercises

*Create a **New Project** for every exercise. Take a screenshot of the source code along with its output and place the **source code** and the **screenshot** in a **zipped folder** named **LastNameFirstName_Lab2***

Exercise 1

Given the following source code *ML_L2Ex1_S25_sample.py*, **split** the data set into training and test, *test_size=0.2*, and apply **KNN** with **K=3**. Compute the **accuracy** of your model and print the **visual confusion matrix**. Finally, print the first **5 images** from your test dataset along with their **actual** and **predicted** labels.

Exercise 2

Given the following dataset with **two features**: *data = np.array([[1, 5], [3, 2], [8, 4], [7, 14]])*, perform **standardization** using your own functions (even for mean and standard deviation). Furthermore, **revert** the **standardization** and print the values. Compare your results with the *built-in* functions for standardization and inverse standardization.

Note: Submit through **Canvas**