CHINHOYI UNIVERSITY OF TECHNOLOGY

GRADUATE BUSINESS SCHOOL

MSCDA605 – MACHINE LEARNING TECHNIQUES

ASSIGNMENT 1: GROUP PRACTICAL

DUE DATE: 31, JULY 2025

Question 1: Practical

Answer the question in Jupyter Notebook. Clearly indicate the members name and student registration number inside the notebook file.

Problem Statement

A real estate company (Company X) with over two decades of market presence is facing increased competition and wants to gain a competitive edge through data-driven decision-making. The company has historical data on property sales, including features such as property location, area, number of bedrooms, stories, and parking.

You have been contracted to design and implement a deep learning model to predict property prices based on these features.

Task:

a) Outline the key stages you would follow to build and deploy a deep learning model for this task. For each stage, explain its objective in the context of this project. *(15 marks)*

b) Identify and explain **three critical hyperparameters** that you would tune to improve model performance. Justify their importance with respect to tasks. *(3 marks)*

c) Discuss **two challenges** you might face when applying deep learning to property price prediction and suggest strategies to address them. *(2 marks)*

d) Develop a **deep learning model** to predict the property price based on the features *(40 marks)*

NB: Only one member of the group should submit the file on CUT VLE. Dataset is found on CUT VLE in the Dataset folder ("Housing.csv")