



Inspiring Excellence

## BRAC University

Department of Computer Science and Engineering

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# Artificial Intelligence

*Course Project Report*

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# Chapter 1

## Introduction

Housing prices are influenced by multiple factors such as location, size, number of rooms, and available amenities. Accurately estimating property value is important for buyers, sellers, and real estate analysts, as it helps in making informed financial decisions. However, manually analyzing these factors can be time-consuming and subjective, often leading to inconsistent pricing judgments.

This project aims to address this issue by developing a machine learning-based classification system that predicts the price category of a flat (such as low, medium, or high) based on its key attributes. Instead of predicting an exact price, the model classifies properties into meaningful categories, making the results easier to interpret and more practical for decision-making.

The motivation behind this project is to explore how data-driven approaches can improve transparency and efficiency in real estate pricing. By leveraging historical housing data and applying classification algorithms, the system seeks to uncover patterns between property features and price ranges. This can assist potential buyers in budgeting, help sellers set competitive prices, and provide a foundation for further predictive analytics in the real estate domain.

# **Chapter 2**

## **Dataset description**

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# Chapter 3

## Dataset pre-processing

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# Chapter 4

## Dataset splitting

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# **Chapter 5**

## **Model training & testing**

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### **5.1 k-Nearest Neighbors**

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### **5.2 Decision Tree**

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### **5.3 Logistic Regression**

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### **5.4 Linear Regression**

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### **5.5 Naive Bayes**

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### **5.6 Neural Network**

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## 5.7 K-Means Clustering

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# Chapter 6

## Model selection/Comparison analysis

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# **Chapter 7**

## **Conclusion**

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