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**Assessment Cover Page**

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| *Student Full Name* | Miqueias S. dos Santos |
| *Student Number 2* | 2016287 |
| *Module Title* | Strategic Thinking (HDip in Data Analytics) |
| *Assessment Title* | CA 1 – Capstone Project Proposal |
| *Assessment Due Date* | 29th March 2024 |
| *Date of Submission* |  |

**Declaration**

By submitting this assessment, I confirm that I have read the CCT policy on academic misconduct and understand the implications of submitting work that is not my own or does not appropriately reference material take from a third party or other source.

I declare it to be my own work and that all material from third parties has been appropriately referenced.

I further confirm that this work has not previously been submitted for assessment by myself or someone else in CCT College Dublin or any other higher education institution.

**Introduction**

The House Price Prediction project aims to develop a machine learning model for precise house price predictions. The escalating house price-to-income ratio in Ireland, highlighted by the Statista Research Department (published on Jan 8, 2024), presents a considerable challenge to homeownership, emphasizing the necessity for predictive tools in navigating the evolving real estate scenario.

The practical implementation of this initiative is vital for the real estate industry, public sectors, and serves as an informative source for buyers and sellers addressing current challenges. Its objective is to provide both current insights and future predictions.

Ultimately, the project aspires for these predictions to play a pivotal role in enhancing transparency and efficiency within the real estate market. This involves empowering buyers and sellers in negotiations and aiding government decisions. By the project's conclusion, these predictions aim to contribute to strategic initiatives, including policies addressing escalating prices, homelessness, and legislation for equitable buyer opportunities.

The project seeks to provide a lucid roadmap for achieving its objectives and advancing our comprehension of the dynamic real estate landscape. It intends to confront challenges associated with escalating housing prices and the prevailing market situation, contributing valuable insights for comprehensive public and private stakeholder considerations.

**Objectives**

1. Develop a Robust Machine Learning Model: Create and fine-tune a machine learning model capable of accurately predicting house prices based on relevant features such as location, number of rooms, and year built.
2. Enhance Transparency in the Real Estate Market: Utilize the developed model to provide transparent insights into house prices, empowering buyers and sellers with valuable information for more informed decision-making.
3. Optimize Efficiency in Price Negotiations: Enable more efficient and fair price negotiations between buyers and sellers by leveraging the model's predictions to establish a clearer understanding of property values.
4. Inform Governmental Decisions on Social Housing: Explore the potential for using predictive insights to aid public government decisions, especially in identifying areas where the construction of social houses can positively impact the population and address housing challenges.
5. Contribute to Strategic Initiatives and Policies: Investigate the model's predictions' applicability in contributing to strategic initiatives and policy formulation, including addressing rising house prices, homelessness, and implementing legislation for fair buyer opportunities.

These objectives are designed to align with the overarching goal of developing a machine learning model for house price prediction and showcase the practical applications and impacts of the model in the real estate sector and beyond.

References

Contents

[Introduction 1](#_Toc158384946)

[Chapter 1 1](#_Toc158384947)

[Chapter 1.1 1](#_Toc158384948)

[Chapter 1.1.1. 1](#_Toc158384949)

[References 2](#_Toc158384950)

# References

Statista Research Department. (2024, January 8). Annual house price change in Ireland. Retrieved from [ [https://www.statista.com/statistics/1155332/annual-house-price-change-in-ireland/]