

Title of the Project: AI-Driven Agents for Fair and Efficient Property Valuation in Saudi Arabia

Abstract

This study proposes developing machine learning models to address inefficiencies in Saudi Arabia's property valuation system, which currently suffers from subjective appraisals, slow manual processes, and limited rural access. This study aims to develop AI-driven agents to enhance the efficiency and fairness of property valuations by leveraging advanced data analytics and machine learning techniques.

The proposed AI system integrates satellite imagery (for location and infrastructure analysis), property photographs (for size and condition assessment), and historical sales records (for price estimation) to generate accurate and objective property valuations

One of the primary challenges in rural property valuation is the lack of comprehensive data. This study addresses such limitations by employing a hybrid approach, combining AI-driven automation with expert human oversight for complex cases.

The findings indicate that AI-based valuation enhances transparency, reduces disputes, and lowers operational costs, while ensuring equitable pricing across diverse regions of Saudi Arabia. This research contributes to modernizing real estate valuation practices and improving market accessibility, particularly in underrepresented areas.

Background and Motivation:

The rapid expansion of Saudi Arabia's real estate sector necessitates efficient and reliable property valuation methods. However, existing valuation techniques remain outdated and inefficient, leading to various challenges:

- 1. Subjectivity and Bias:** Traditional property valuations are influenced by appraisers' personal judgments, cultural factors, and subjective preferences, resulting in inconsistent pricing.
- 2. Time-Consuming Process:** Manual property assessments often take several weeks, causing delays in real estate transactions and large-scale development projects.
- 3. Limited Accessibility in Remote Areas:** Many rural and desert regions lack qualified appraisers, leaving properties undervalued or unassessed.

Problem Statement:

Current property valuation methods in Saudi Arabia present several limitations:

- 1. Unfair property prices due to personal judgment:** Property values may be lower/higher than they should be because appraisers rely on their own opinions instead of objective data.
- 2. Delays in the Valuation process:** Lengthy manual inspections and bureaucratic procedures hinder timely real estate transactions.
- 3. Limited access to professional appraisers in Remote areas:** Many properties in rural and desert regions remain unvalued due to a lack of available experts.

Research Objectives:

This study aims to develop and evaluate AI-driven agents capable of performing accurate and fair property valuations in Saudi Arabia. The key objectives are:

1. To develop AI algorithms for property Valuation.
2. To ensure fair and Unbiased property Valuation.
3. To enhance property Valuation in Remote areas.
4. To improve the speed and efficiency of property Valuation.