

Real Estate Listing Promotion Strategy for Nova Holdings

Overview

This project simulates a real-world data analysis scenario for Nova Holdings, a leading real estate agency in the US managing tens of thousands of listings annually. As a Data Analyst, the goal was to develop a data-driven promotional strategy for showcasing 1,000 property listings on Zillow—America's top real estate platform—out of a total inventory of 10,000 listings set to be sold in the upcoming six months.

Objective:

To maximize property visibility and accelerate sales by:

- Identifying top-performing locations based on buyer interest.
- Highlighting locations with the best investment potential.
- Recommending a promotion strategy for allocating limited Zillow listing slots effectively.

Key Analytical Questions:

- Top 10 Sought-After Locations, based on search patterns and consumer demand.
- Top 10 Locations for Investment, based on profitability, growth trends, and relative value.
- Zillow Slot Allocation Strategy:
 - a. Prioritize listings based on search interest, consumer leads, and property value. Select the top 50 listings to promote, justifying their inclusion.
 - b. Define de-prioritization criteria for when a listing should be removed from promotion.

Methodology:

Data Analysis Techniques: Filtering, grouping, ranking, and comparative analysis

Metrics Considered: Search volume, lead generation, average price per sqft, price trends

Decision-Making Factors: Business value, urgency to sell, location performance, market trends

Tools Used:

- Python for data cleaning, analysis, and strategy modeling (Pandas, NumPy, Seaborn/Matplotlib)
- Jupyter Notebook for exploratory analysis and documentation
- ChatGPT for idea refinement and presentation drafting

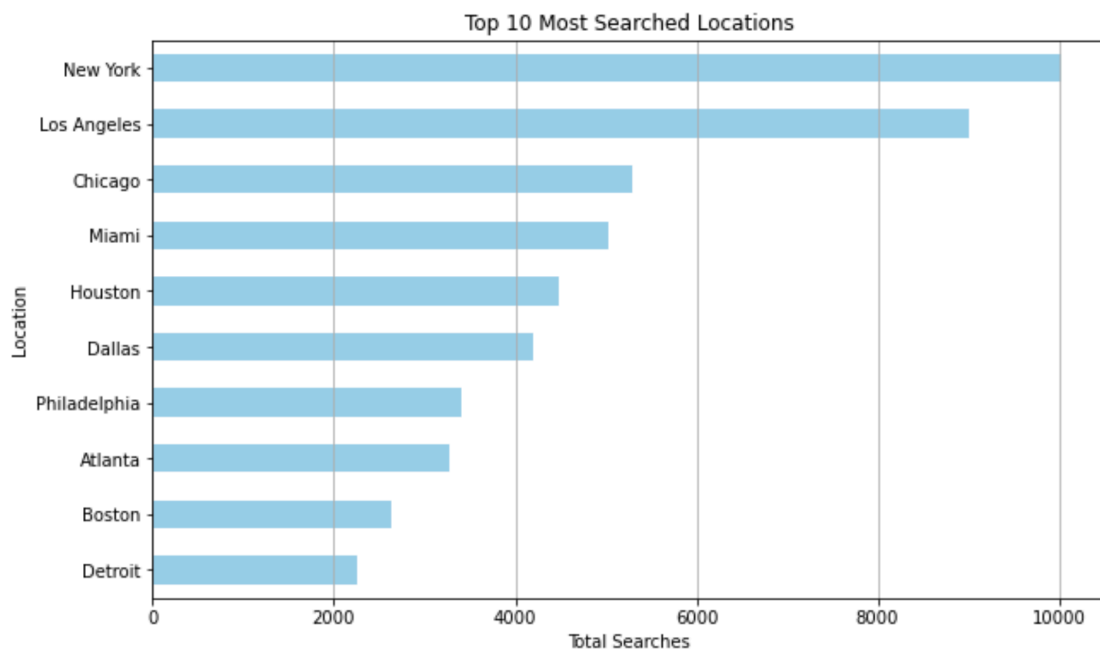
Insights Summary:

- A ranked list of high-demand and high-investment-potential locations
- A promotional strategy that balances visibility, conversion likelihood, and business impact
- An adaptable listing management approach based on real-time performance indicators

Analysis

1. Computation Process

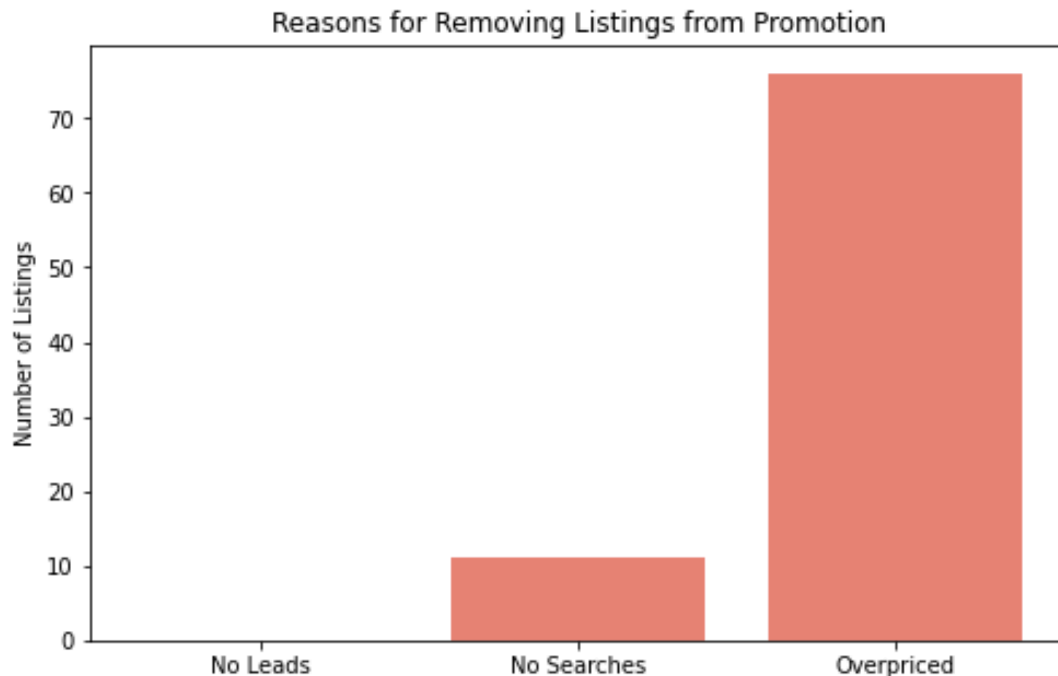
- **Data Loading & Cleaning:** Imported and cleaned three datasets (traffic, leads, inventory) by removing duplicates and standardizing location fields to a unified 'Location' column for consistent analysis. I made the assumption that the string fields were correctly formatted and they were consistent.
- **Top 10 Most Searched Locations:** Aggregated total searches by location from the traffic dataset and ranked locations by total search result.



Insight: Locations like New York receive the highest search traffic, indicating strong buyer demand. Prioritizing listings in these areas can increase visibility and accelerate sales.

- **Top 10 Investment Locations:** Focused on 'for-sale' listings, calculated average prices and total leads per location, then derived an "Investment Score" defined as the number of leads per \$100K to identify locations offering the best return on investment.

- **Removal Criteria:** Defined listings to remove from promotion if they have zero leads or searches or are overpriced by more than 50% compared to average price in their location. Listings with low engagement or pricing issues should be delisted to keep promotions effective.



Insight: Listings are removed if they have no leads, no searches, or are priced over 50% above the location average, ensuring promotional space focuses on viable options.

2. Why This Approach Was Chosen

I chose this method because it focuses on promoting listings that people are actually interested in (lots of leads and searches) and that are affordable. This helps sell properties faster and makes the best use of the limited spots available for promotion.