Analyze Real Estate Prices with Linear Regression and Hypothesis Testing Using Python

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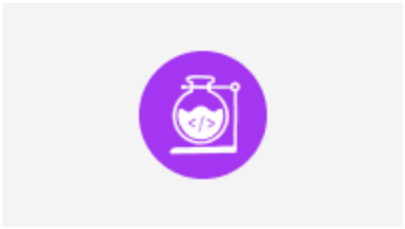

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Created byAlexander Hagmann

Lab scenario

In this lab, you will be a quantitative analyst in the Finance & Analytics team at a Real Estate Broker Firm located in Taipei, Taiwan. In client presentations, the company highlights its expertise and in-depth understanding of the Taiwanese residential property market, making claims about critical factors influencing house prices. These claims are primarily based on qualitative facts and the CEO´s long-term experience. For some (potential) clients, this is insufficient. Your team leader provides a dataset with recent transactions and asks you to verify and test these claims with quantitative/statistical methods. At the end of the project, you will deliver a non-technical summary report for your CEO pointing out if and how the factors significantly influence house prices.

Estimated effort

1hr - 2hr

Project workspace

Data Science

Project expiration

14 days

Objectives

- ✓
  Create and fit basic Multiple Linear Regression Models

- ✓ Test the significance of independent variables in a Regression Model (Hypothesis Testing)
- ✓ Perform an Explanatory Data Analysis (EDA)
- ✓ Perform a (statistical) Data Visualization
- ✓ Pre-process and prepare tabular Data for Linear Regression
- ✓ Convert non-linear relationships to linear relationships with variable transformation
- ✓ Identify and handle problems in Linear Regression Models (e.g. multicollinearity)
- ✓ Understand and interpret the results of Linear Regression and Hypothesis Testing

Requirement

- ● Basic Python coding skills
- ● A basic understanding of statistical concepts like Linear Regression & Hypothesis Testing

What you'll learn

- ● Linear Regression with Statsmodels (Python)
- ● Hypothesis Testing with Statsmodels (Python)
- ● Explanatory Data Analysis (EDA) with Pandas and Seaborn
- ● (Statistical) Data Visualization with Seaborn

- ●
  Data Analysis and Manipulation with Pandas and Numpy

More labs by Alexander Hagmann

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