Summary of ‘Estimating Warehouse Rental Price using Machine Learning Techniques’

This paper "Estimating Warehouse Rental Price using Machine Learning Techniques" used machine learning models to predict rental prices in the warehouse market.

1. Dataset

Source: By using a web scraping framework in Python, This article created a dataset with warehouse rental posts in Beijing on 58.com during the period of November 2016 to January 2017, one of the largest and most active general purpose classified websites in China.

After removing incomplete and obviously erroneous data, The resulting dataset includes 2,462 rental listings.

This articles also obtains 23,438 records of second-hand real estate rental information in the Beijing area in January 2017 from Lianjia.com, which is the website of one of the largest real estate agencies in China

2. Data Cleaning Process

removing incomplete and obviously erroneous data

3. Research method

This articles selected features including distance from the city center, size, nearby house prices, distance from the closest house, and the district of the warehouse for analysis.
It employed method Machine Learning Models including Linear Regression,Regression Tree,Random Forest Regression and Gradient Boosting Regression Trees.

4. Results

A 70/30 training-test data split was used to assess model performance. The models were evaluated using Root Mean Square Error (RMSE) and correlation coefficient (r).
Random Forest Regression has the best result and achieved the highest correlation coefficient (r = 0.57) on the test set.
The most important feature in predicting rental prices was the distance from the city center, followed by the size of the warehouse and nearby house prices.

5. Contribution to our project

This paper enhanced my confidence on building a machine learning model to evaluate factors determining price of rental market. Also this paper provided useful information on how to get raw data set using Python. The link of document is in below:
https://docs.scrapy.org/en/latest/