Project Proposal

Real estate value prediction

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# Introduction

For the personal challenge this semester, I had to choose someone who is an expert in his or hers work. The personal challenge is to write a predictive AI that is useful to your expert. I chose Peter Brouwers as my expert. Peter is an established real estate agent in the area who is enthusiastic about the future of AI. Peter came up with the idea to predict the value of houses and how long they will be for sale with the help of predictive AI. Since Peter is an active real estate agent in and around Den Bosch, I will focus the model on around this place. Predicting the value of the house would benefit Peter with saving time, since right now he does this by hand. Predicting how long the property will be for sale will help both Peter and his customers. It would help Peter in busier times in the real estate market to consider whether putting the house up for sale is even worth his time. On the other hand it would help Peter’s customers because Peter can give them an accurate estimate on how long their property will take to be sold.

# Interview

# Required data

To make an accurate prediction on home appraisals and listing duration, I need the following data:

* Features of the house
  + Amount of (bed)rooms
  + Living area and plot area
  + Year of construction of the house
  + Presence of amenities such as a swimming pool, garage, etc.
* Characteristics of the neighborhood
  + Location (e.g. city, neighborhood)
  + Crime rates in the area
  + Proximity to schools, shops, hospitals and public transport
  + Average income and employment rates in the neighborhood
* Historical data
  + Historical sales prices of comparable homes in the area
* Economic factors
  + Interest rates
  + General economic conditions, such as unemployment rates and inflation
* Demographic data
  + Age distribution of the population in the area
  + Family size and household composition
* Time-related data
  + Seasonal trends and market fluctuations
  + Date of listing (when the house was put up for sale)

Dataset for house features: <https://www.kaggle.com/datasets/bryan2k19/dutch-house-prices-dataset>

<https://www.kadasterdata.nl/provincies/noord-brabant>

<https://www.wozwaardeloket.nl/>

<https://www.vanbruggen.nl/makelaardij/huis-kopen/taxatierapport#:~:text=Hij%20kijkt%20daarbij%20niet%20alleen,waarde%20van%20de%20woning%20benoemd>.

<https://www.obvion.nl/blog/Eigen-huis/taxatie-huis#:~:text=Dat%20doet%20hij%20aan%20de,zijn%20bepalend%20voor%20de%20waarde>.