

The Impact of Chinese Silicon Valley on Housing Prices



Zhenxing Xie, Shuwei Liang, Gengjin Wu, Ashwin Ganesh, Serzh Yeranyan

Overview

- Web Scraper
- Data Analysis
- Spatial Distribution
- Housing Price Prediction
- Conclusion

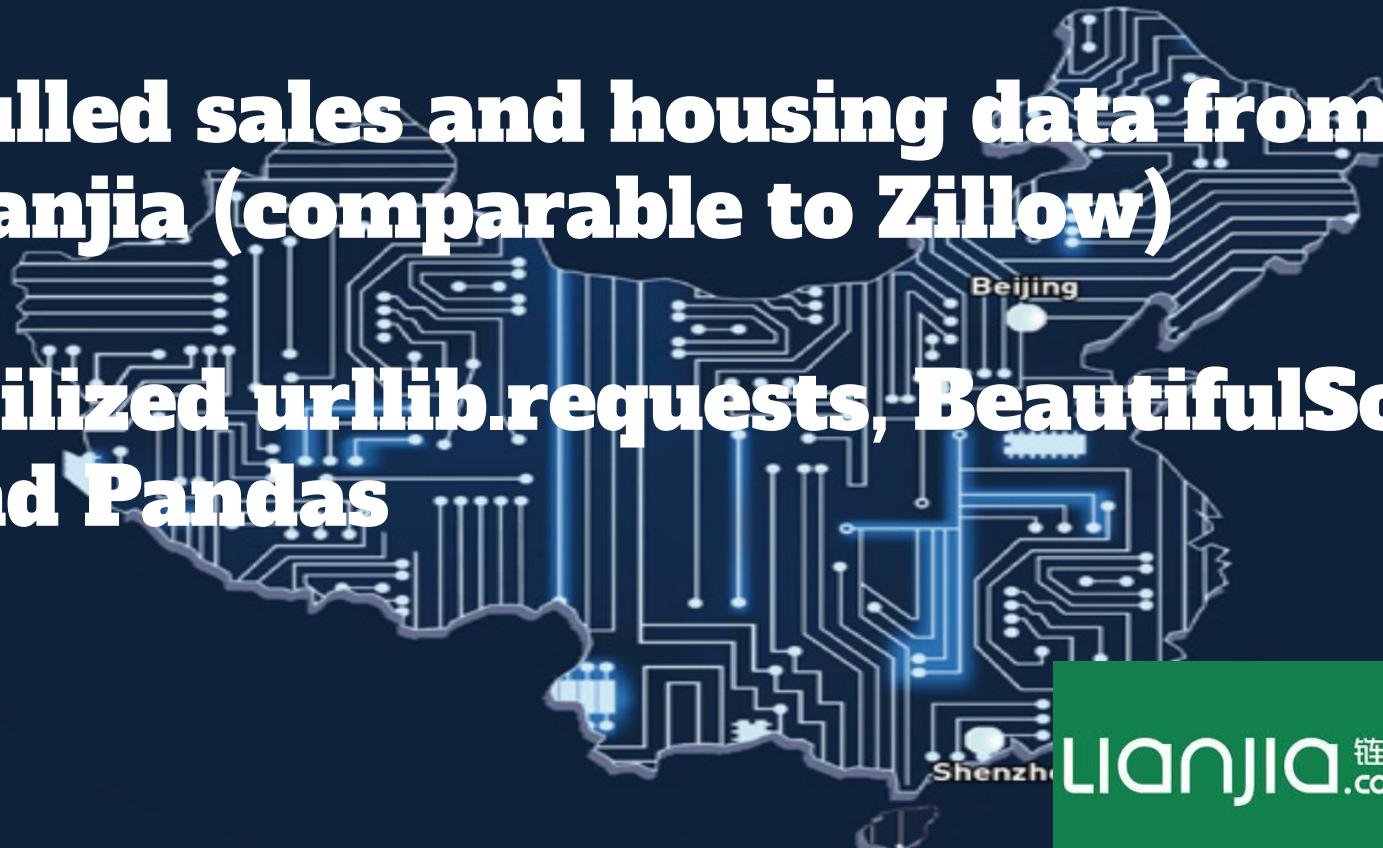
Objectives

Characterizing the correlation between the development of the “Chinese Silicon Valley” and its peripheral housing prices.

- What are visualizations of the metrics?
- How is the housing market spatially distributed?
- What prediction can we make?

Web Scraper

- Pulled sales and housing data from Lianjia (comparable to Zillow)
- Utilized `urllib.request`, `BeautifulSoup` and `Pandas`



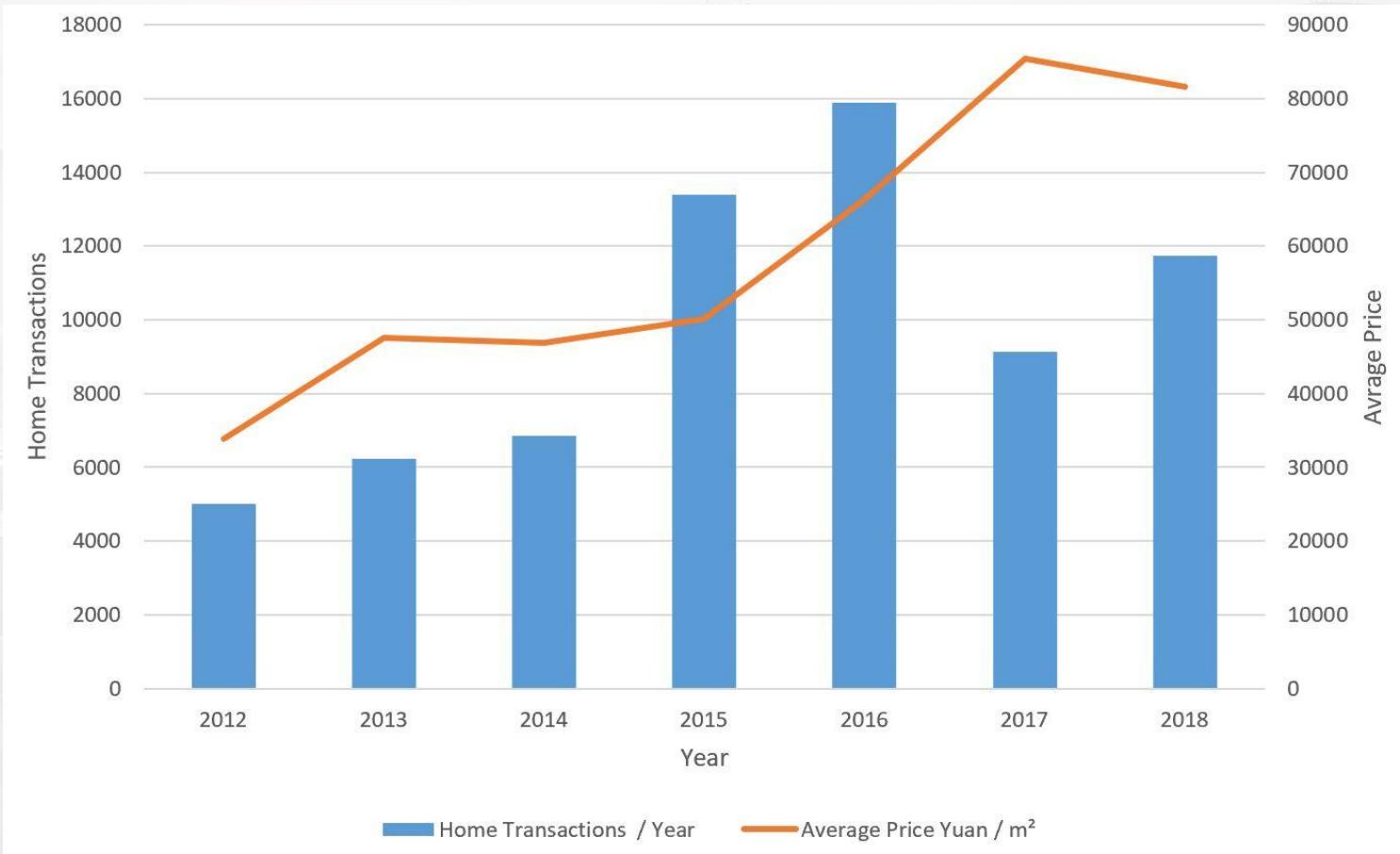
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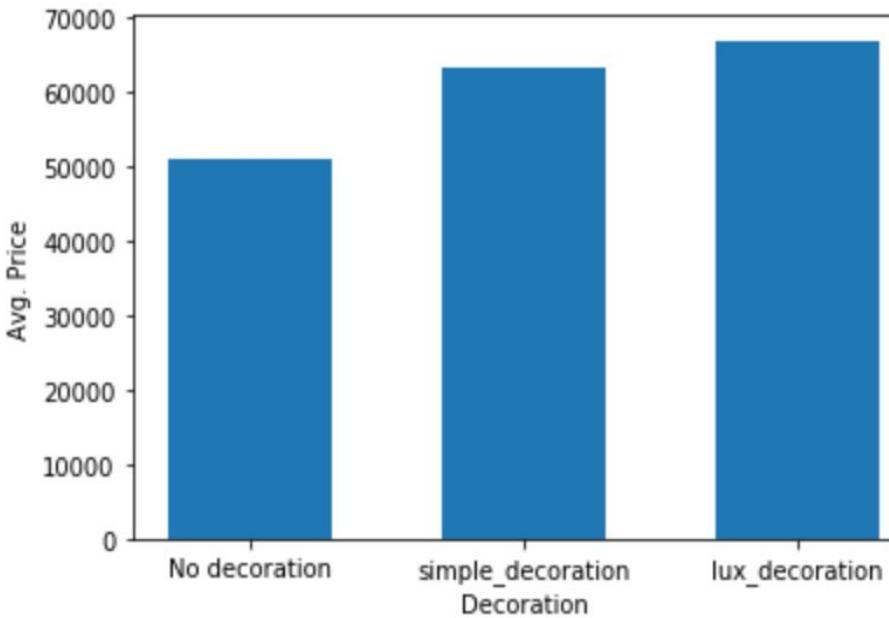
Data Analysis



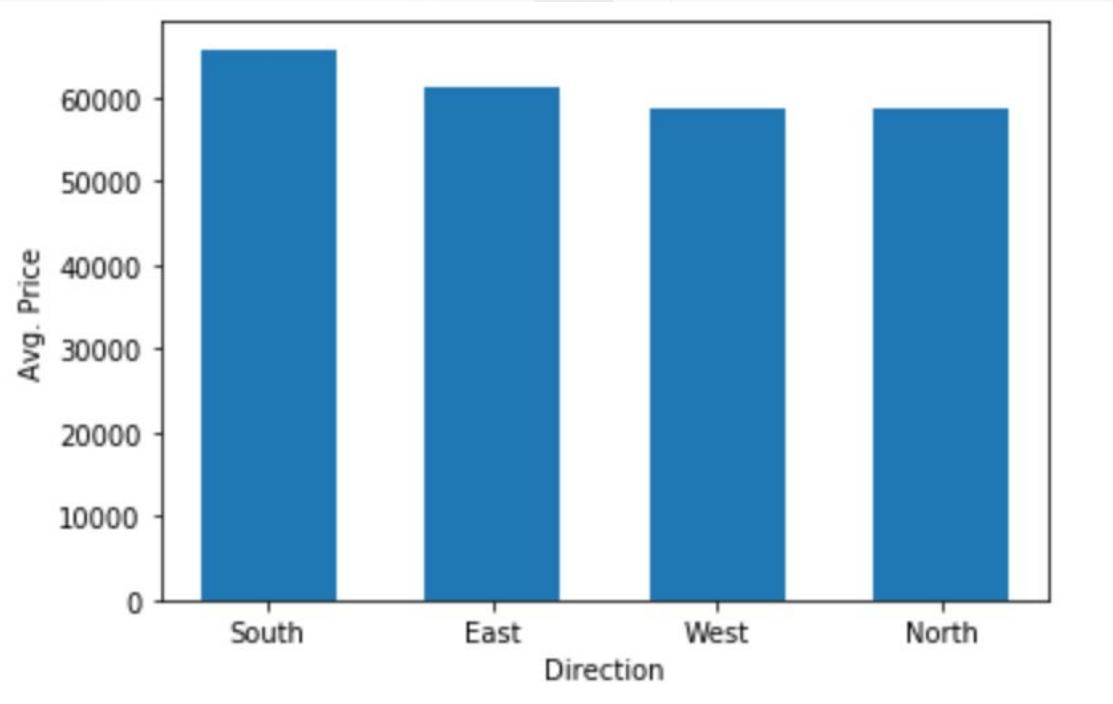
Housing Data Overview



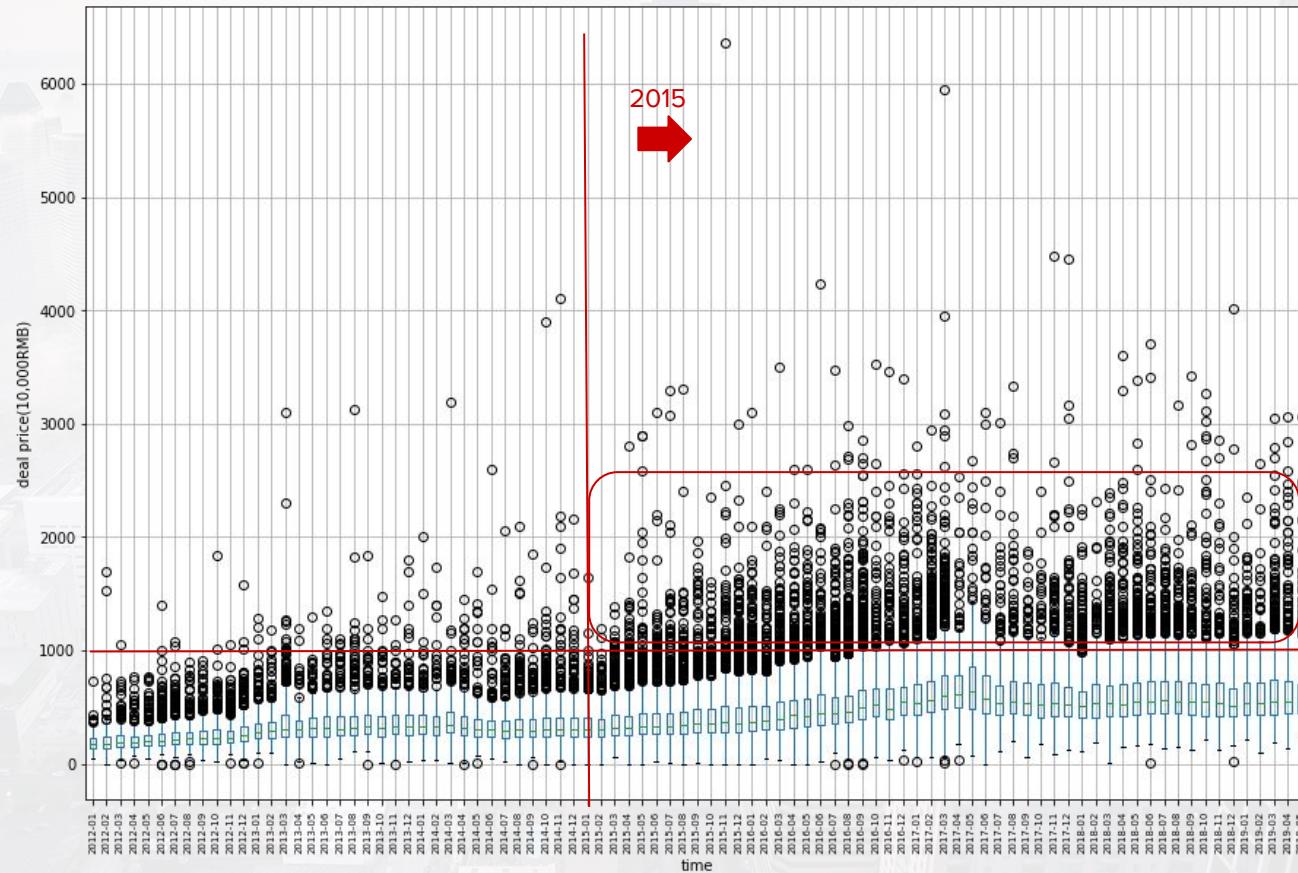
Average Housing Price/m² Given Housing Furnishings



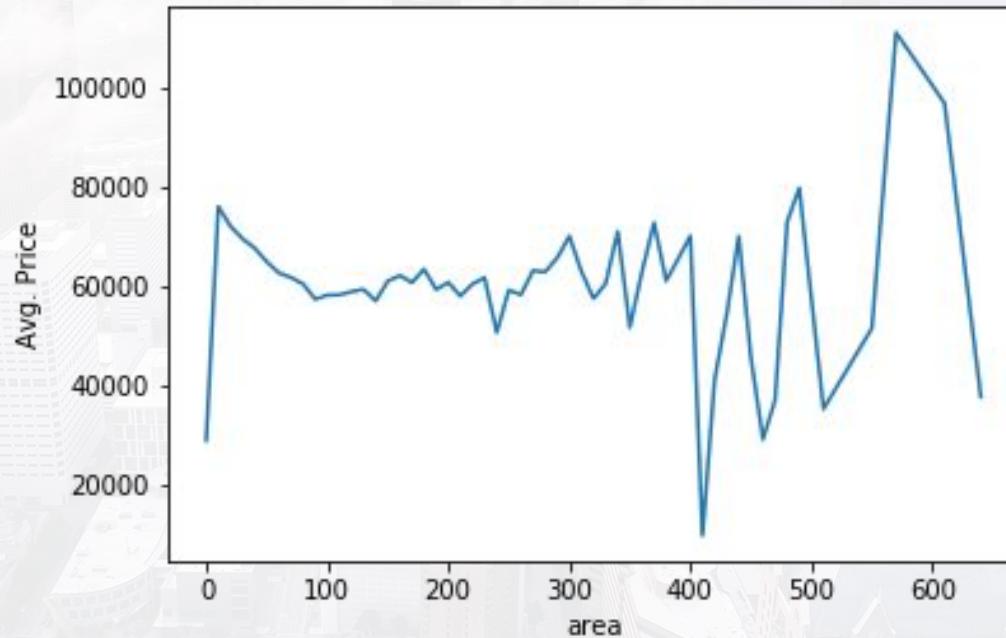
Facing direction - Average Price/m²



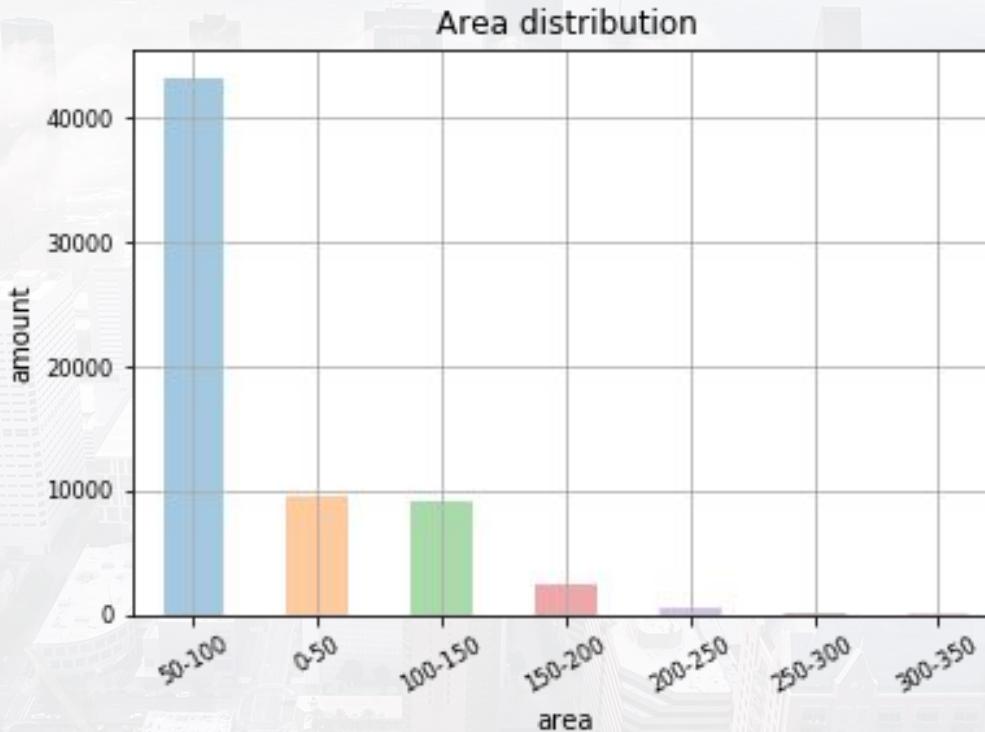
Distribution of housing transactions



Area(m²) - Average Price



Area - Transaction amount

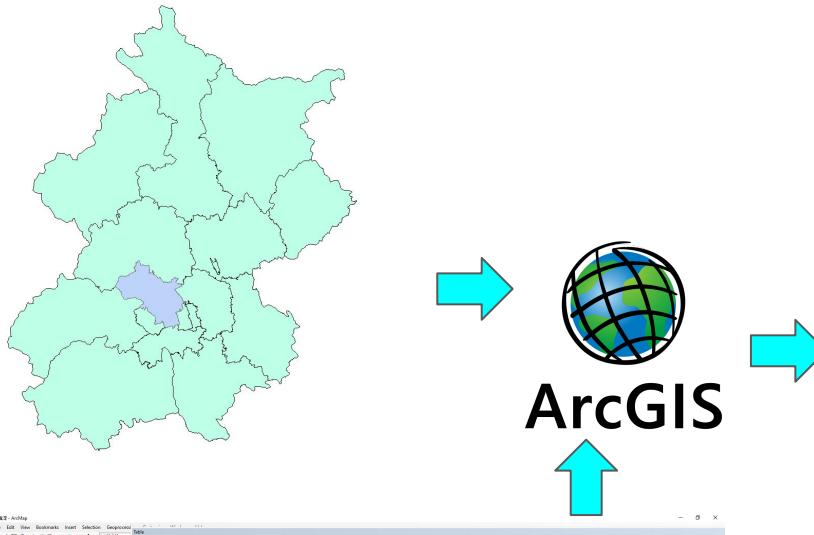


An aerial photograph of a city at night, showing a dense urban area with a grid-like street pattern. The roads and buildings are illuminated by artificial lights, creating a pattern of glowing yellow and white lines against the dark blue of the night sky. The city extends from the foreground into the distance, with more lights visible in the far background.

Spatial Distribution

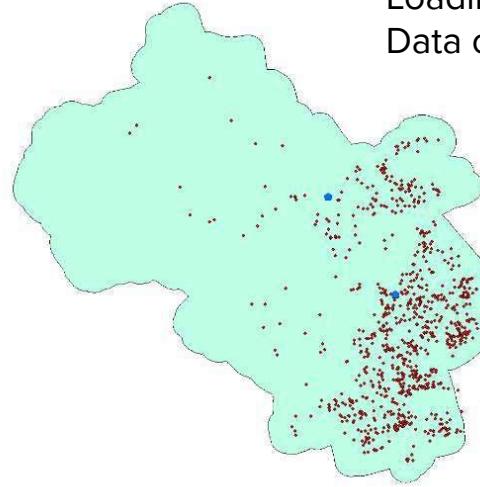
Spatial Distribution of Communities

Map Data



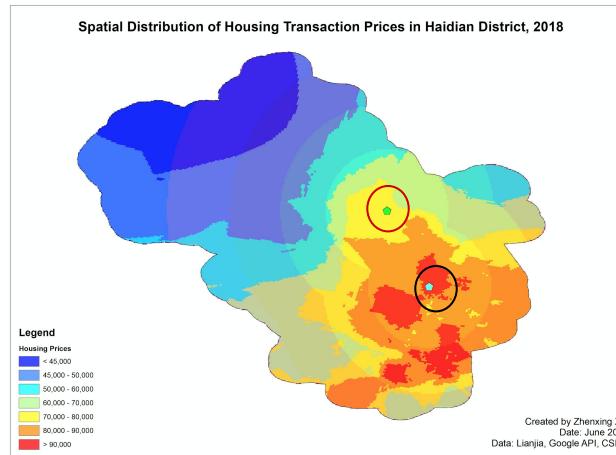
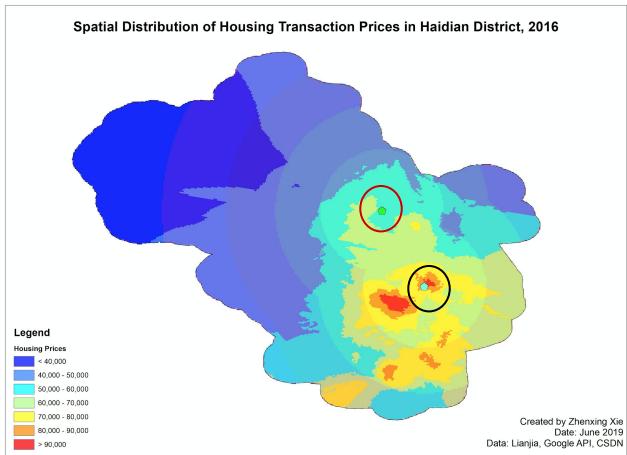
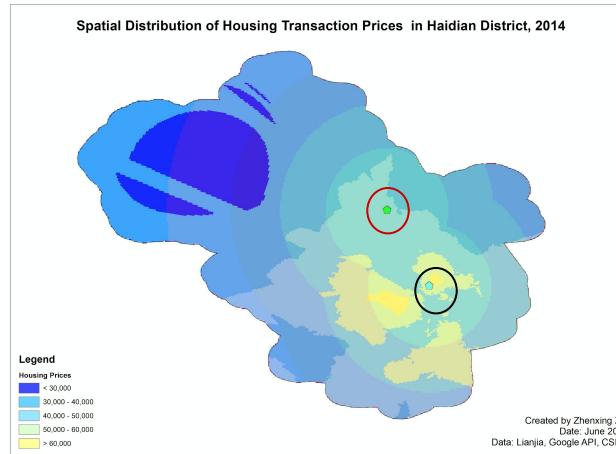
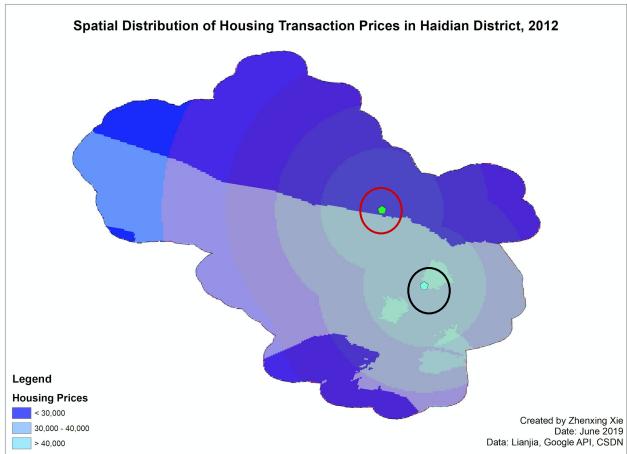
ArcGIS

Loading the Housing Data on Map



Housing Data

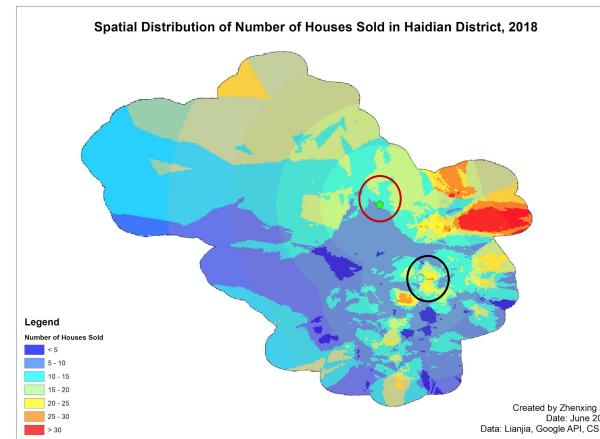
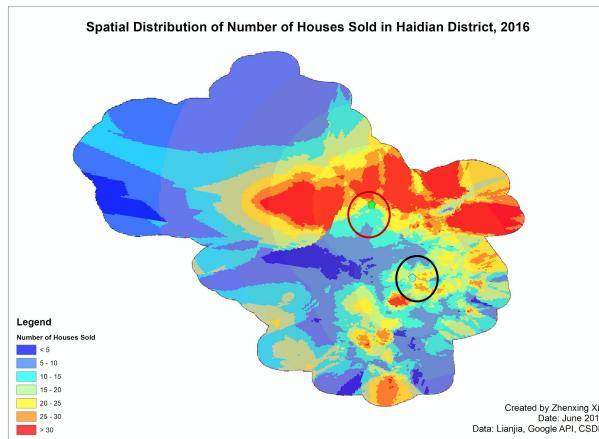
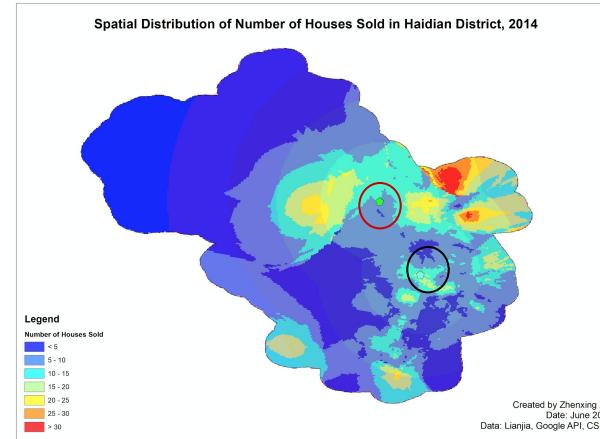
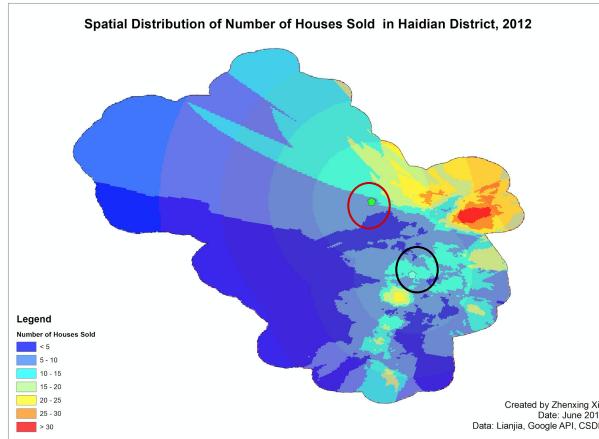
Spatial Distribution of Housing Prices



○ Chinese Silicon Valley

○ Developed Downtown

Housing Transactions Distribution



- Chinese Silicon Valley
- Matured Downtown

Prediction



Housing Price Prediction

Predict the housing price given the area and location

Linear Regression

Training
89.17%

Testing
89.81%

**Random Forest
Regression**

Training
98.27% Testing
90.93%



Conclusion

Data Analysis

- Increasing trend for housing prices and transactions
 - Affected by Facing Direction, Year, Furnishings, etc.
- Lots of small houses



Conclusion

Spatial Distribution

- Number of transaction shows continuous increasing trend until 2017
- The prices continued increases.



Conclusion

Prediction

- The Random Forest model shows a better prediction over Linear Regression Model

