

Team 32: Interactive Real Estate Profiler

Introduction (What are you trying to do?)

- ▶ Real estate investment can be complex and challenging
 - ▶ Location, property details, financing, returns vs alternative investments
- ▶ We will develop a tool that allows users to conduct a preliminary market analysis and visualize the estimated return on investment for potential properties
 - ▶ Model based on the specific location they are investing in



Literature survey (How is it done today)

- ▶ Many approaches have been used to model real estate appreciation
 - ▶ Multiple Linear Regression used by Q. Zhang to model Boston house prices in "Housing Price Prediction Based on Multiple Linear Regression", 2021
 - ▶ Machine Learning used by Calahnho, Minne, and Francke in 2022 journal on 30,000 NY properties
 - ▶ ML also used by Kang et. Al in 2021 "Understanding house price appreciation using multi-source big geo-data and machine learning"
- ▶ Interactive visualization techniques have been used to allow the exploration of trends
 - ▶ Garwal, Fan, and T. F. Sing used 3D real estate price heatmaps in "Tracking the pulse of a city" Journal published in 2021
 - ▶ Li, Bao, Sellis, Yan, and R. Zhang aggregated Australian real estate data from several sources in "HomeSeeker: A visual analytics system of real estate data" published in 2018

Expected innovations (What's new, Who Cares, Impacts)

- ▶ What's new: this interactive tool uses real market data to predict future valuation AND shows return on investment
- ▶ Who cares: Any real estate investor, particularly individuals looking to educate themselves
- ▶ Impacts: Helps make informed decisions with confidence



- ▶ Risk: real-estate is volatile, even with good models
- ▶ Cost: minimal
- ▶ Schedule/Plan:

