

MATH RESEARCH AT UNC CHARLOTTE 2023

Project: Charlotte Mecklenburg area housing dynamic related to COVID-19

Mentor: Dr. Yanjmaa Jutmaan

Project description. House prices increased at an unprecedented rate during the pandemic. It is evident that housing prices generally increased in the United States, especially in the Charlotte Mecklenburg area. The median home prices in the Charlotte market grew at an annual rate of 16.3% from September 2020 to September 2021. The supply of owner-occupied housing is exceptionally tight. For example, in June 2021, the median days on the market fell to three days, and almost 60% of the houses sold were above their listing prices.

Very little research has been conducted to understand housing market dynamics and evolution in the Charlotte Mecklenburg area. We would like to see patterns or predictions of housing price changes in the Charlotte area real estate market during and after the crises. We will introduce a simple mathematical modeling using multi-dimensional regression analysis on existing data to predict and forecast the housing market in the Charlotte area. We will further use several machine learning models. We will use urban institute Charlotte's existing data and housing value dataset from the Zillow research website and GIS Geographic information system data including US census five digit Zip code.