**Project 3: NJ New Movers Guide – Adding in Housing Price Predictor**

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**Objective and Approach:**

* Expand and improve upon product built during Project 2 by incorporating a future home value price predictor that will allow users to make more informed decisions on which part of NJ to move to. An example use case of this would be a user of our site would look to find out the future predicted value of a home in each county in 2025, 2030, etc. This may be a key decision criterion for a mover to NJ in evaluating where to move to.
* We will do this by:
  + 1) Bringing in historical home value prices to our wider tool
  + 2) Building and train a machine learning model, testing different predictor models (linear regression, logistic regression, etc.) to determine best model to use
  + 3) Bring in an additional data set of potential ***new*** related/correlated data (such as median household income) to help support and train the model, as well as incorporate crime and poverty index data previously gathered from Project 2
  + 4) Incorporate this new feature in a user-friendly fashion that seamlessly fits in with our existing tool (calculator, dashboard, etc.)

**New Data Sources We Expect to Use:**

* Zillow Home Value Index: <https://www.zillow.com/research/data/>
  + This is a CSV export that provides monthly home values by county dating back to 1996
* NJ Rent Fair Market Value: <https://www.rentdata.org/states/new-jersey/2020>
  + This is a website (would have to be scraped) of fair market rent values by county dating back to 2006
* US Census Data API (for Median Household Income): <https://api.census.gov/data/timeseries/poverty/>
  + This is a JSON that contains Median Household Income by county in NJ
  + We previously used other data sets within this same API as part of Project 2 (Crime, Poverty), and will also carry over these data sets to our Project 3 model (if we determine it is in fact useful to the model)

**Final Output:**

* Our resulting new product feature will likely look like one or more of the following:
  + 1) A calculator type feature where the user would enter the county and year that they are interested in understanding a predicted future home value for
  + 2) A table that has a summary of all the future predictions for each county over the next several years
  + 3) An additional data point on the click or hover over counties on our existing map that shows income and crime rates already