Predicting Gentrification Using Machine Learning

Neighborhood Characteristics Before Gentrification

- Older Housing Stock
- Long-time Residents
- High Racial Diversity
- Low Income
- High Percent of Rentals
- Use of Public Transportation

Gentrification In Progress

- Investment Comes Into Neighborhood
  - New Housing
  - New Upscale Businesses
  - Investment in new public transportation (i.e. Light Rail Systems)
- Area Becomes More Desirable To Higher Income Buyers
- Rents Increase – Low Income Residents Get Displaced

Gentrification

- Can Machine Learning provide early notice of Gentrification?
- Would early warning enable Policy Makers to minimize Displacement while still enabling neighborhood revitalization?

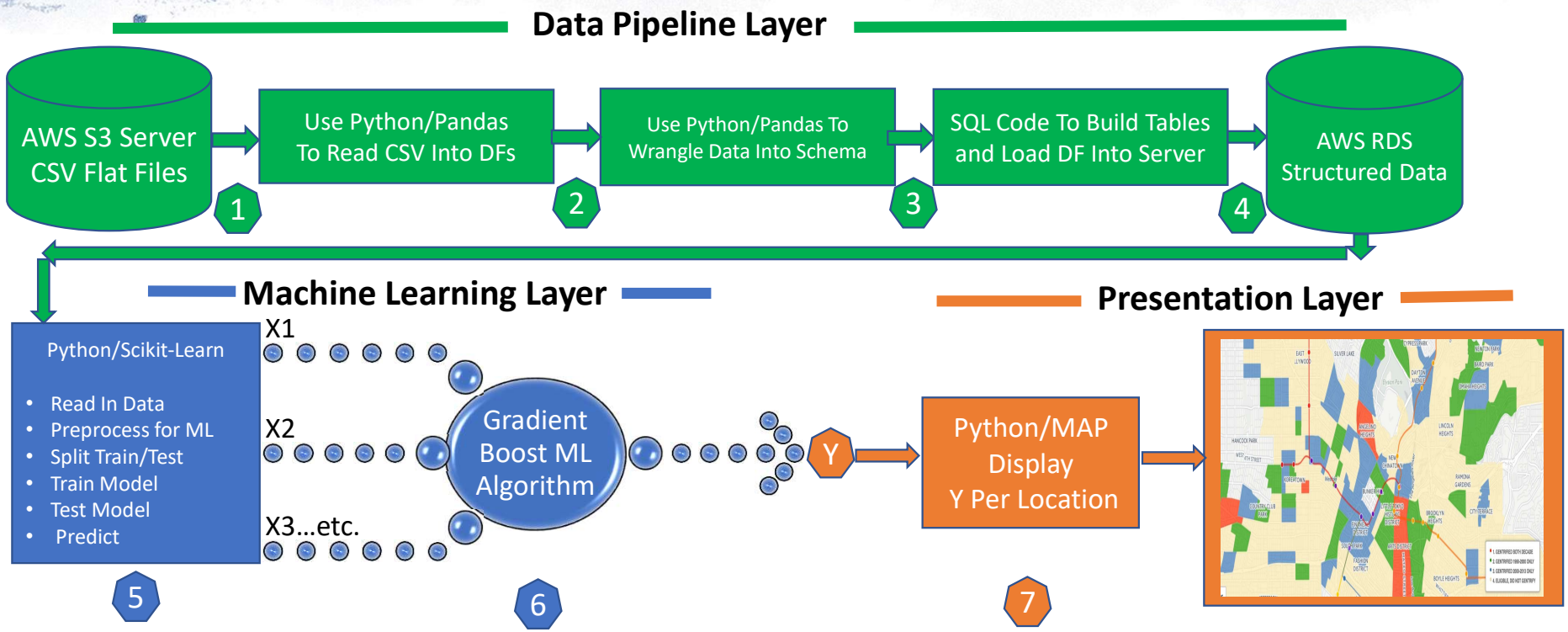

Team-Blue-MW
The Details of the Project

GentrifyPredict Project Milestones

Team-Blue-MW
Is On This Step

- Identify Data Sources correlated To Gentrification
- Preprocess Data for Machine Learning
- Test Various ML Models for Accuracy
- Define Final dB Schema and wrangle data to fit
- Setup Cloud DB and Connect Model
- Define and Build Visual Presentation Layer
- Predict and Display “Early Notice” Neighborhoods

GentrifiedPredict Technology Stack



Machine Learning (X) Features

X Features (Timeframe 2000-2010)

- X1 - Percent Change in Rental Price
- X2 - Percent Change in Caucasian Resident
- X3 - Percent Change in Median Housing Prices
- X4 - Percent Change in Median Income
- X5- Percent Change In Upscale Businesses

Additional Features Under Consideration

- Percent Change in Ranking of K-8 Schools
- Presence of Social Services Office (0/1)
- College Investments

Proposed Visualization Layer

- Color Legend
  - Blue – Neighboorhoods Predicted To Be High Probability of Gentrifying Y=1
  - All Other Neighborhoods Y=0