Jim Keenan, Applied Data Science Capstone, Week 1

The object of this Capstone Project is to pick a prime location to open a restaurant, in the state of Maine, in the regions of Cape Elizabeth and Portland, which are two of the most visited areas in New England, with over 1 million visitors per year. In addition to tourism which is seasonal, there is a good demographic of affluent residents, a breakdown of which can be found below

Males: 4,343 (48.2%) Females: 4,672 (51.8%)

Estimated median household income in 2016: $108,277 (it was $72,359 in 2000) Cape Elizabeth: $108,277 ME: $53,079

Estimated per capita income in 2016: $57,725 (it was $37,983 in 2000)

Cape Elizabeth town income, earnings, and wages data Estimated median house or condo value in 2016: $390,329 (it was $187,300 in 2000) Cape Elizabeth: $390,329 ME: $184,700 Mean prices in 2016: All housing units: $312,246

Detached houses: $319,831; Townhouses or other attached units: $357,030

In 2-unit structures: $369,212; In 3-to-4-unit structures: $298,263

In 5-or-more-unit structures: $262,887

Mobile homes: $61,735 Cape Elizabeth, ME residents, houses, and apartments

**Data Set**

The data which will be used will be generated from FourSquare.com as per course recommendations, pulling all areas of attraction in a 10 mile radius of the Portland Headlights Lighthouse, Cape Elizabeth, ME.

**Evaluation of Location**

The recommendation for the restaurant location will be provided using data science, K-Means clustering, which will analyze Geocode information.

Based on the data set, analysis will be carried out on areas of interest, and a recommended restaurant site defined. The data set was returned from the FourSquared.com API with a limit of 100 entries, with two centroids which will adapt based on recommendations. For illustration purposes, the results of the K-Means clustering will be presented on a map of the areas.