

# Income Recomender System

## Target:

Our target is to build a system that recommends what salary employees deserve based on their occupation, city and state.

## Data Source:

Dataset for the project was taken from the US employment stats report of May 2018.

## Methods:

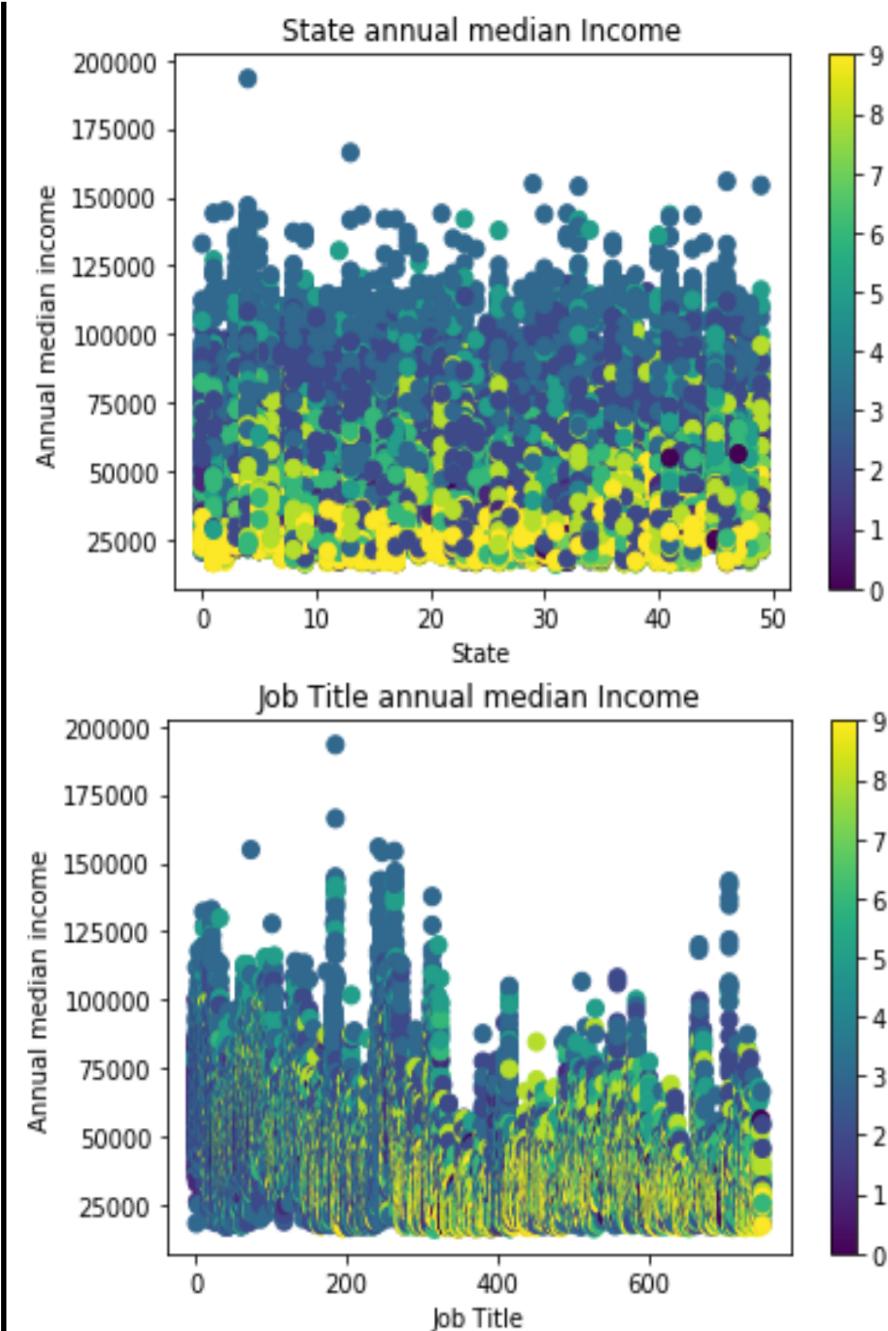
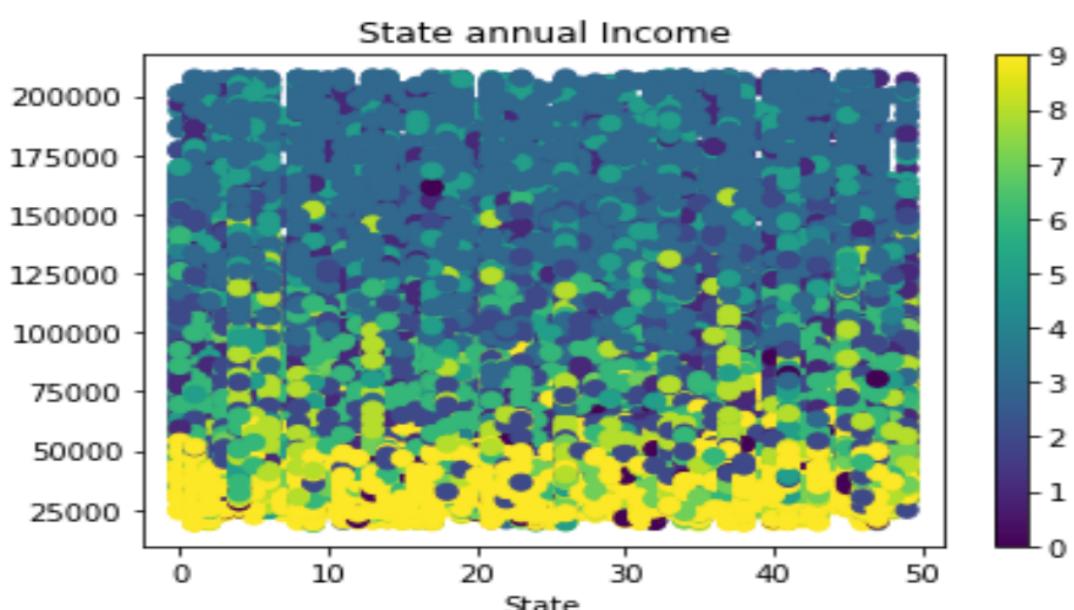
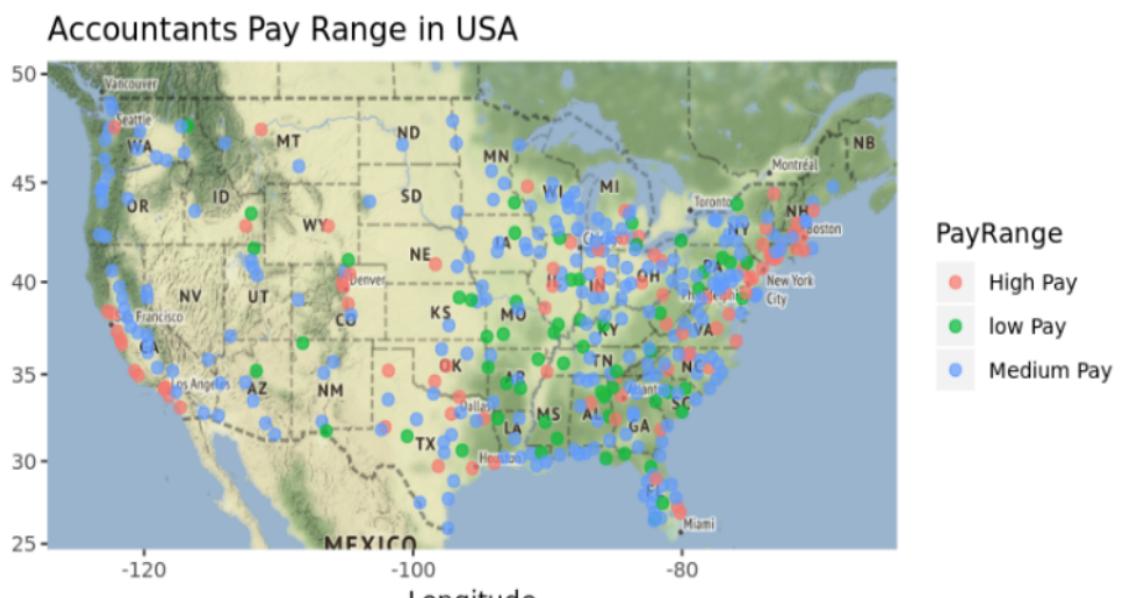
- Model used: K-means clustering
- Data size: 143000\*20
- Visualizations: Scatterplots and Maps

## Data Cleaning:

- Deleted rows with missing values
- Changed datatypes from string to int
- Added new columns for lat and long
- Grouped the dataset based on the job titles

```
list_lat = [] # create empty lists  
  
list_long = []  
  
  
for index, row in df1.iterrows(): # iterate over rows in dataframe  
  
    City = row['City']  
    State = row['State']  
    query = str(City) + ',' + str(State)  
  
    results = geocoder.geocode(query)  
    lat = results[0]['geometry']['lat']  
    long = results[0]['geometry']['lng']  
  
    list_lat.append(lat)  
    list_long.append(long)
```

## Results:



## Conclusion:

The recommender system we built is clustered based on annual median income and state and it is user interactive. When user inputs his/her preferred occupation and state/city. Our k-means algorithm will locate the occupation in the given state and return the annual median income which a person may deserve.