

IS 445 - Final Project

By

Team 6

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Background:

Before an employer wishes to hire an international employee, the DOL must certify to the USCIS that there are not sufficient U.S. workers able, willing, qualified and available to accept the job opportunity in the area of intended employment and that employment of the foreign worker will not adversely affect the wages and working conditions of similarly employed U.S. workers. Once this permanent labor certification is obtained the employer will need to seek the immigration authorization from USCIS.

Dataset:

This data was collected and distributed by the US Department of Labor. Data covers 2011-2016 and includes information on employer, position, wage offered, job posting history, employee education and past visa history, associated lawyers, and final decision. It contains 106 columns and 371,010 rows.

Observatory:

Since our dataset contains 106 columns, it can be challenging to manually go through the values of each column or combination of columns to identify any pattern amongst the visa applications being accepted or rejected.

We wish to create an interactive exploratory application where the user can select various combinations of attributes and identify insights from the data.

The following are our observations of the data and how we have made it more Interactive:

1. Employer state and annual salary in these states

In order to visualize which states, offer higher salaries compared to others, we created this interactive graph using Plotly. Here when we hover, we can see the state name and total annual salary in this state. The color of these states is on the Bluered_r color scale, where states with Red color have higher annual salary amount as compared to states with Blue color.



2. Number of visa application with Case status as Certified or Denied based on city and year

This interactive visualization is for number of visa applications with their decision year and case status as either 'Certified' or 'Denied'. The dropdown consists of all employer cities based on visa applications across 2011-2016. User can select any of the employer city listed in the dropdown, enter the start year and end year for visa decision date and it will generate a bar graph based on the count of visas issued in specified years.

Area: ▼

Start Year:

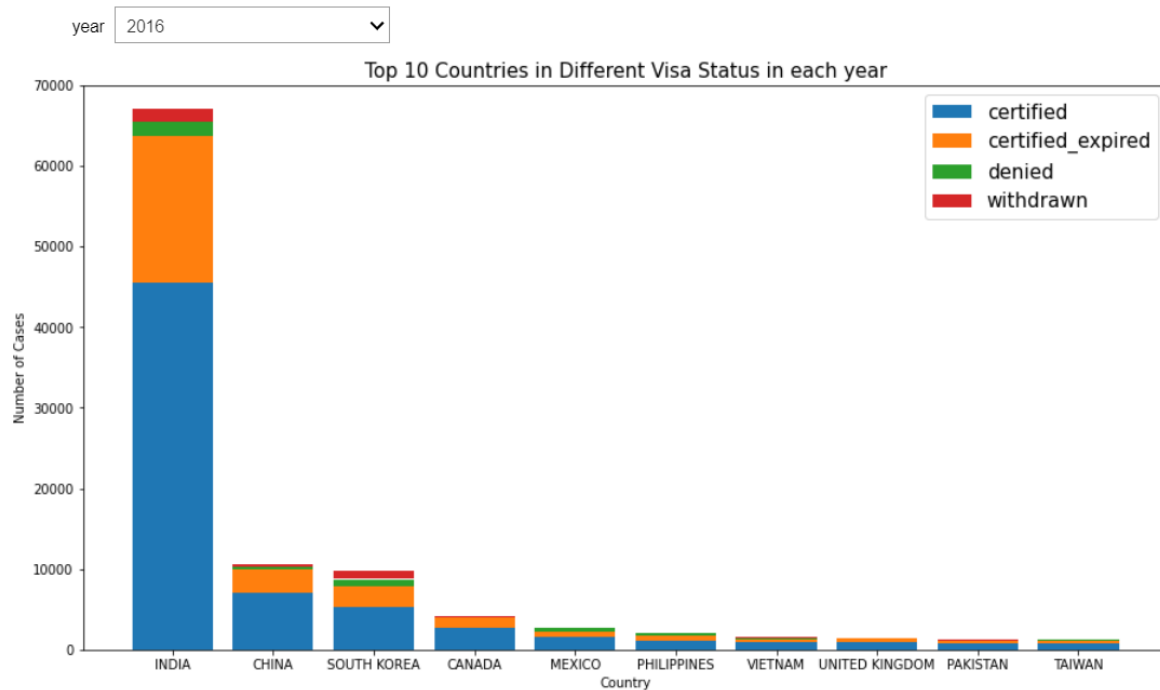
End Year:



3. Top 10 countries, each Visa status, each year

This stacked bar plot shows which the top 10 countries are, in different visa status, for different year. To select the specific year, user can use the dropdown menu on the upper left corner. Since the scale of X axis is fixed, user can find the overtime change from 2011 to 2016 in term of each top 10

country.



4. Employer numbers of each state presenting in an interactive US state map

This graph shows the number of employers from each state in the United States. The colors of light green from dark green on the map represent the range of numbers. This is an interactive graph that when user's cursor hovers over the state, detailed information of state name and its number of employers that sponsoring visa will present on the graph.

