"Survive or Not" - H-1B Visa Petition Analysis Shiny App

https://proj5.shinyapps.io/h1b-app2/
Group 7

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Project Overview

In this project, we will utilize the H1B visa petition dataset and perform various statistical analysis aiming to find interesting trends. The key components of this app are the following:

- Interactive Map
- Overall H1B Visa Petition Trend
- High-Applicant Employers and Job Title
- Data Science Related Job Analysis

Backgroud

H1B

H-1B is an employment-based, non-immigrant visa category for temporary foreign workers in the United States. For a foreign national to apply for H1-B visa, an US employer must offer a job and petition for H-1B visa with the US immigration department.

H1B Process

Step 1: The first step of the H1B application process is for the U.S. employer to file the H1B petition on behalf of the foreign worker. Be sure the employment letter includes the position's exact duties, dates of employment, detailed description, salary offered, position requirements, contact information, etc.

Step 2: The prevailing and actual wages should be confirmed by the State Employment Security Agency. If the prevailing wage exceeds the offer made by the prospective employer then a wage determination will be sought. It's important to ensure that the foreign worker will not be working below the minimum prevailing wage in the specific location. The Foreign Labor Certification Data Center maintains the prevailing wage determinations by location.

Step 3: The third step of the H1B application process is to **file the Labor Condition Application** (ETA-9035).

Step 4: The next step is to prepare the petition and file it at the proper USCIS office

Step 5: Processing times for H1B application petitions are subject to vary from location to location. If you would like your petition expedited you may elect for premium processing. There is an additional charge for this service and it does not necessarily guarantee an approval.
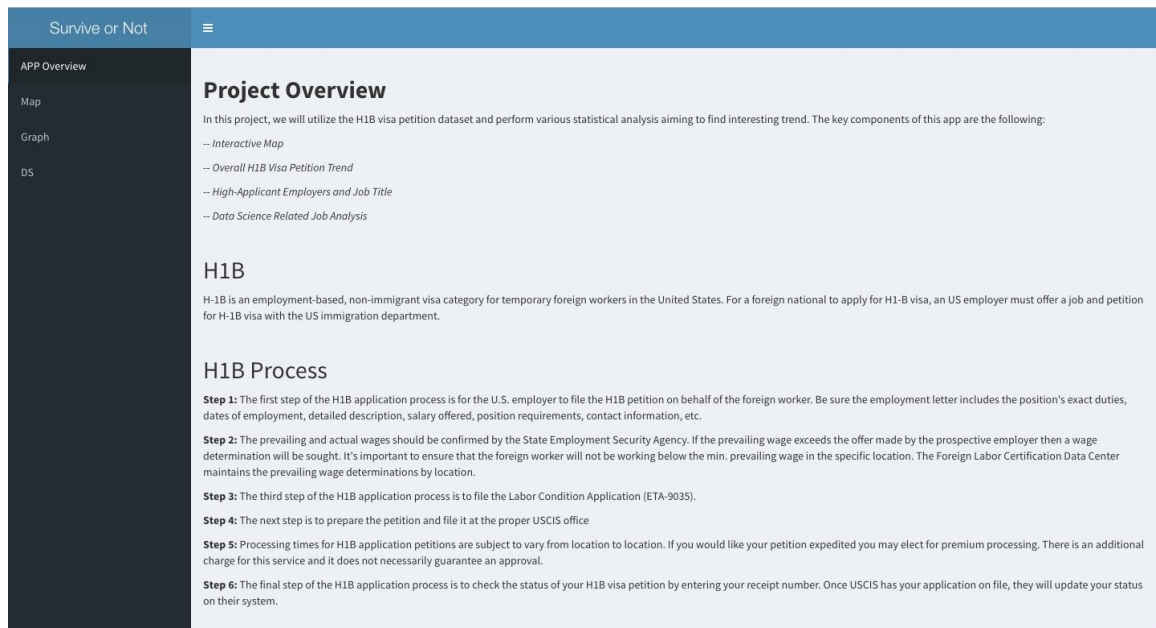
Step 6: The final step of the H1B application process is to check the status of your H1B visa petition by entering your receipt number. Once USCIS has your application on file, they will update your status on.

Data

Three million H1B visa petition records from USCIS website.

(Note, USCIS does not disclose H1B case status. CASE_STATUS in the dataset represents the case status of LCA form)
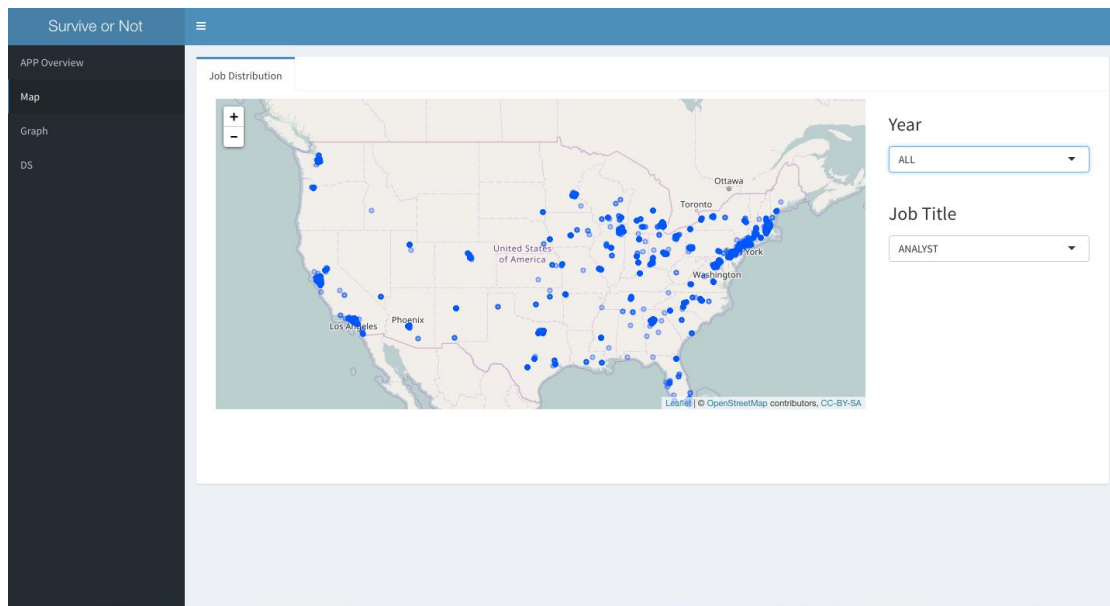
Panel 1: Project Overview

Panel 2. Interactive Map

In this part, we built an interactive map for users to observe H1B distribution on different states of US and users are able to filter within years as well as top 30 job titles.
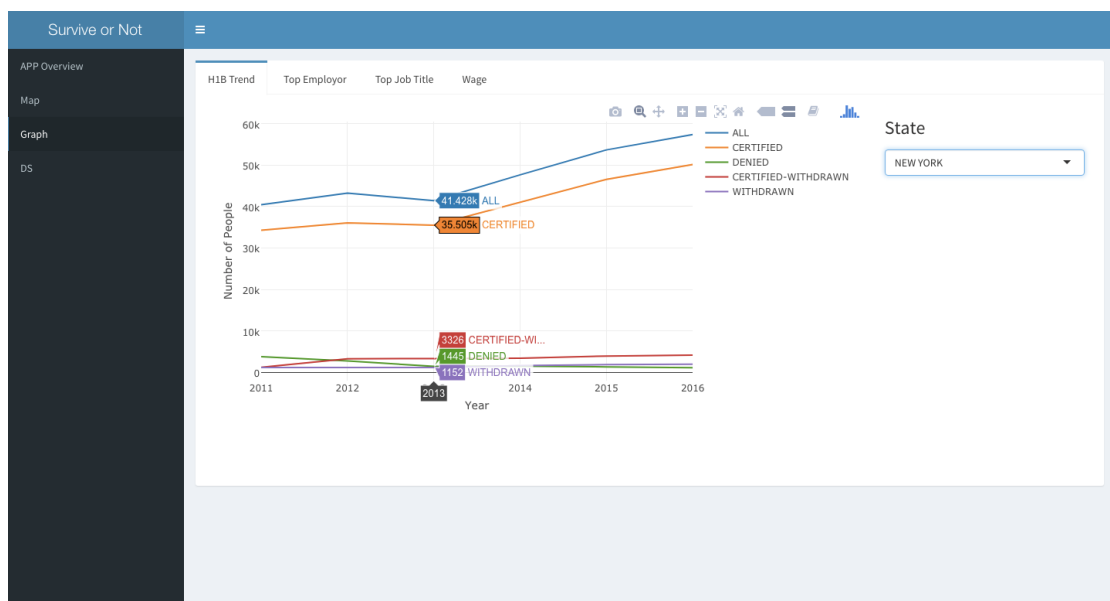
Screenshot:

Panel 3: Overall H1B Visa Petition Trend and High-Applicant Employers and Job Title

In this part, we observe graphs for the trend of H1B, top employers, top job titles and top wages in recent years to analyze the overall trend of h1b status among different criteria.

Screenshot:

Panel 4: -- Data Science Related Job Analysis

In this part, we focus on the jobs we ADS class students mostly care about, data scientist. We analyze the trend among three kinds of jobs, machine learning, data engineering and data scientist, and to observe the trend, wages and industries which gets the most H1B positions.

Screenshot:

Survive or Not ≡

APP Overview

Map

Graph

DS

Application Trend   Wage boxplot   App trend of industry   Wage trend of industry

OBSERVATIONS
1.Machine Learning jobs have the highest median wage although the number of Job Titles with Machine Learning explicitly in them are less than 75 in any year. 2.Median wage for Data Engineer jobs is consistently increasing. 3. Median wage for Data Scientist positions is negligibly decreasing since 2012 although this is the position that has seen the most growth in the last 6 years.