



# **ANALYSIS OF H1B VISA APPLICATIONS FROM 2010-2018**

MSIS 5673 -DESCRIPTIVE ANALYTICS VISUALS

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## 1. INTRODUCTION

### 1.1 What is H1B Visa.

The H-1B is a visa in the United States under the Immigration and Nationality Act, section 101(a)(15)(H) that allows U.S. employers to temporarily employ foreign workers in specialty occupations. A specialty occupation requires the application of specialized knowledge and a bachelor's degree or the equivalent of work experience. The duration of stay is three years, extendable to six years; after which the visa holder may need to reapply.



### 1.2 H1B Application Process

The application process involves three stages.

- ✚ The employer files with the United States Department of Labor a Labor Condition Application (LCA) for the employee, making relevant attestations, including attestations about wages (showing that the wage is at least equal to the prevailing wage and wages paid to others in the company in similar positions) and working conditions.
- ✚ With an approved Labor Condition Application, the employer files a Form I-129 (Petition for a Nonimmigrant Worker) requesting H-1B classification for the worker. This must be accompanied by necessary supporting documents and fees.
- ✚ Once the Form I-129 is approved, the worker may begin working with the H-1B classification on or after the indicated start date of the job, if already physically present in the United States in valid status at the time. If the employee is outside the United States, he/she may use the approved Form I-129 and supporting documents to apply for the H-1B visa. With a H-1B visa, the worker may present himself or herself at a United States port of entry seeking admission to the United States, and get a Form I-94 to enter the United States. (Employees who started a job on H-1B status without a H-1B visa because they were already in the United States still need to get a H-1B visa if they ever leave and wish to reenter the United States while on H-1B status.)

### 1.3 What is the Data Set About?

This dataset focuses on first stage of the H1B Application process. Which means our final data set has all the details of LCA applications that Department of Labor received from financial year 2010 to financial year 2017.

So, to make a note, this analysis will focus on the status of LCAs of the employees but not the H1B visa itself.

## 2.EXPLORATORY ANALYSIS

### 2.1 Why this Data Set



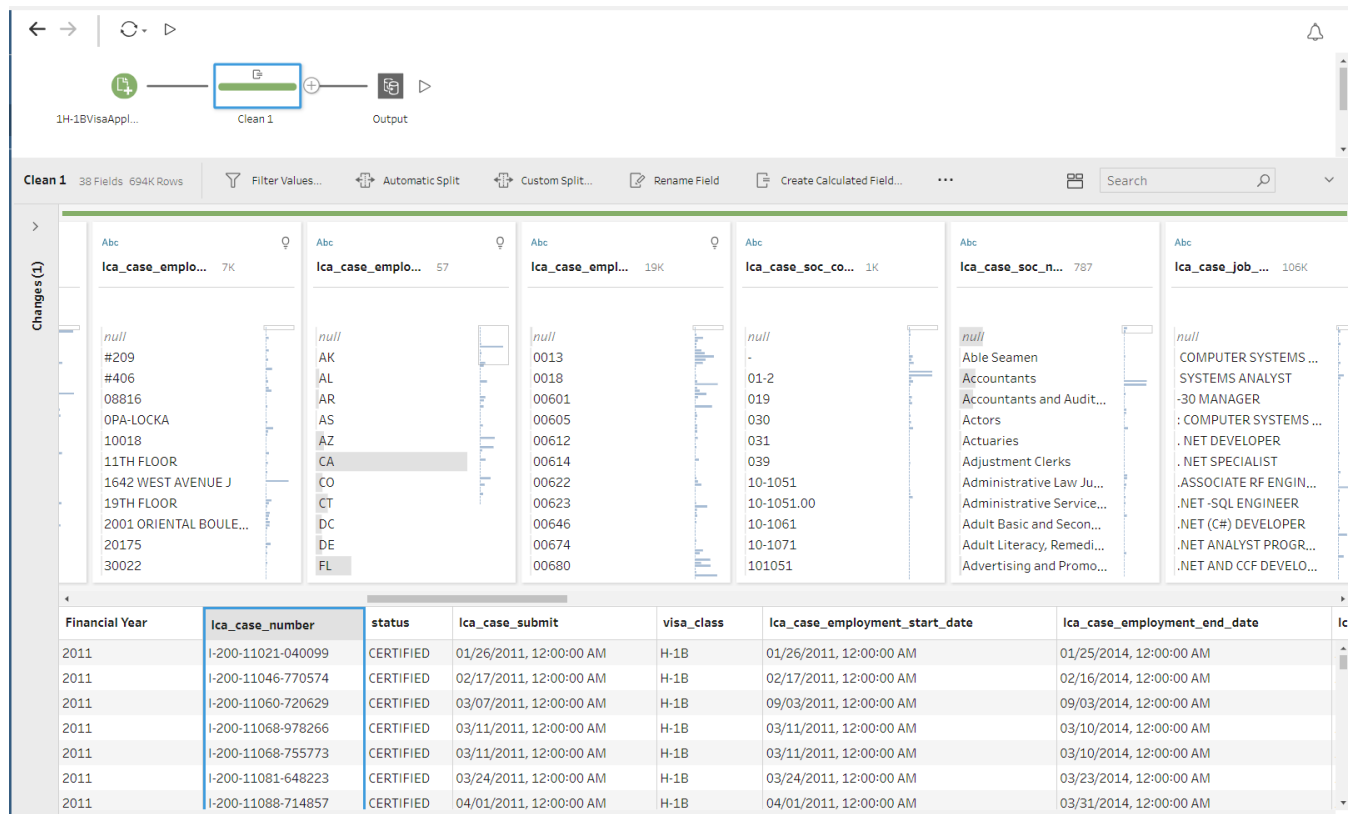
Being an International student, the word immigration has been highly attention drawing word to me for the past one year or so. Also starting from the current USA President's order suspending the immigration of nations from Iran, Iraq, Syria, Libya, Somalia, and Sudan there has been a lot of discussion that is going around US immigration. As many organizations in US have large volume of H1B visa holding employees, I think it is especially important to contextualize datasets of H-1B in the face of controversy.

### 2.2 Data Cleaning and Consolidation

The LCAs data is available in different .CSV files, each file comprising the data corresponding to a financial year. All these files have been consolidated into single data source by following the below steps.

- ✚ There is some inconsistency with the columns available across these files. In total there are 36 fields which are common across all the 9 files. Retaining these 36 columns, all other extra columns have been deleted from the respective .CSV files
- ✚ There is some inconsistency in the names of a few columns, although they mean the same they were named slightly different across some files. Names of these columns are renamed across the files and maintained same column name in all the files.
- ✚ There is some inconsistency in the order of the columns arrangement across these files. To make it more convenient for union operation, all the columns in each file are arranged in the ascending order of the columns names.
- ✚ Using Tableau Prep 2018.3 loaded the first data set 1H-1BVisaApplications-2010.csv. While loading the data used the **Wildcard Union** option to generate the union of the all the 9 files.

- Using the File Paths column, auto generated column after Wildcard Union operation, created a new calculated field Financial Year and exported the final data into a new .CSV file which can be used for our final analysis.



*Fig: Screen print of cleaned data on Tableau Prep*

## 2.3 Meta Data:

The columns used in the data set is as explained as below

Attribute	Description
lca_case_number	Labor Condition Application (LCA) Case Number
status	Status associated with the last significant event or decision. Valid values include "Certified", "Certified-Withdrawn", "Denied", and "Withdrawn."
lca_case_submit	Date and time the application was submitted.
decision_date	Date on which the last significant event or decision was recorded by the National

	Processing Center.
visa_class	Indicates the type of temporary application submitted for processing. R = H-1B; A = E-3 Australian; C = H-1B1 Chile; S = H-1B1 Singapore
lca_case_employment_start_date	Labor Condition Application (LCA) Case Employment Start Date
lca_case_employment_end_date	Labor Condition Application (LCA) Case Employment End Date
lca_case_employer_name	Labor Condition Application (LCA) Case Employer Name
lca_case_employer_address	Labor Condition Application (LCA) Case Employer Address
lca_case_employer_city	Labor Condition Application (LCA) Case Employer City
lca_case_employer_state	Labor Condition Application (LCA) Case Employer State
lca_case_employer_postal_code	Labor Condition Application (LCA) Case Employer Postal Code
lca_case_soc_code	Labor Condition Application (LCA) Case Standard Occupational Classification (SOC) Code
lca_case_soc_name	LCA Case Standard Occupational Classification (SOC) Name
lca_case_job_title	Labor Condition Application (LCA) Case Job Title
lca_case_wage_rate_from	Employer's proposed wage rate
lca_case_wage_rate_to	Maximum proposed wage rate
lca_case_wage_rate_unit	Unit of pay. Valid values include "Hour", "Week", "Bi-Weekly", "Month", or "Year".
full_time_pos	Y = Full Time Position; N = Part Time Position.
total_workers	Total number of foreign workers requested by the Employer(s).

lca_case_workloc1_city	Labor Condition Application (LCA) Case Work City Location 1
lca_case_workloc1_state	Labor Condition Application (LCA) Case Work State 1
pw_1	Pay Wage 1
pw_unit_1	Unit of Pay 1
pw_source_1	Variables include "OES", "CBA", "DBA", "SCA" or "Other".
other_wage_source_1	Description of the Other wage source (online wage library, OES, employer provided survey, etc.)
yr_source_pub_1	Year that the prevailing wage rate was published 1.
lca_case_workloc2_city	Labor Condition Application (LCA) Case Work City Location 2
lca_case_workloc2_state	Labor Condition Application (LCA) Case Work State Location 2
pw_2	Pay Wage 2
pw_unit_2	Unit of Pay 2
pw_source_2	Pay Wage Source 2
other_wage_source_2	Description of the Other wage source (online wage library, OES, employer provided survey, etc.) – -Second Location
yr_source_pub_2	Year that the prevailing wage rate was published 2.
lca_case_naics_code	Lca Case North American Industry Classification Systems (NAICS) Code
serialid	Serialid

### 3.EXPLANATORY ANALYSIS

#### 3.1 Who are my audience?

This analysis can be used by the following:

- + International students
- + Students
- + Foreign National Employees of USA
- + Employers of USA
- + Government of USA

#### 3.2 What should they know?

They need basic understanding of all the four statuses of LCA.

- + **Certified:** Indicates that the LCA has been approved by the Department of Labor, USA.
- + **Withdrawn:** Indicates that employer has withdrawn the LCA application before getting approved by the Department of Labor, USA.
- + **Certified Withdrawn:** Indicates that employer has withdrawn the LCA application after getting approved by the Department of Labor, USA.
- + **Denied:** Indicates that LCA has been rejected by the Department of Labor, USA.

#### 3.3 How does my analysis help the audience?

Each category of the audience can gain different insights from this analysis. They are as follows:

- + What are the top companies by number of H1B sponsorships?
- + What are the top Job roles by number of H1B sponsorships?
- + What are the top USA states by number of H1B sponsorships?
- + How the number of LCAs changed over the period 2010 to 2018 for each status of the application?
- + What are the top cities by number of H1B sponsorships?



✚ What are the locations for a company with maximum number of sponsorships?

## 4.STORY BOARDING

Issue	Demonstrate Issue	Ideas to Overcome Issue
Most of the International student's job applications will be rejected because that those companies are not interested to sponsor H1B visa.	Not all companies sponsor H1B visas. So international students and International skilled labor has to identify the companies at which they sponsor H1B visa for a role in which the person wants to work .	Analyze the last 9 financial years data of H1B visa applications to identify the top companies, industries and job roles for which H1B applications are being filed.
Describing ways to Overcome Issue	Outcomes	Recommendations
By looking at the number H1B applications the company has filed in the last nine years and decide on whether to apply for a job with that company or not	Visualizations that will help International students in identifying the Industries, Companies or Job roles for they are more likely to get H1B sponsorship.	Targeting the Industries, Companies and Job roles for which the H1B has been sponsored in the last 9 years will eliminate the reason "Sponsorship" from the list of reasons for your rejection.

## 5. CONCLUSION



From the analysis of this data, Job seekers or International Students can get insights on which Industries, companies, Job roles have shown interest in sponsoring H1B visa for that particular job in the past 9 years. This will help them to pick the courses that are more relevant to those domains .

Also, during the job application process the students can look at the list of companies who sponsored H1B visas for the role which you are looking to take up.

## 6. REFERENCES

The list of references is mentioned as below

<https://public.enigma.com/browse/d582dfbd-4329-4b5e-b0c9-39149f5dd546>

[https://en.wikipedia.org/wiki/H-1B\\_visa](https://en.wikipedia.org/wiki/H-1B_visa)