Analysis of H-1B Visa Application from 2011-2016

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Abstract

The H-1B visa is a nonimmigrant work visa that permits American businesses to recruit foreign workers for specialized tasks that need at least a bachelor's degree.The H-1B visa is one of the most well-known routes for foreign workers to enter the United States. This visa permits foreign skilled workers to work in the United States for up to six years while pursuing permanent residency. There are no issues when an H-1B temporary worker applies for a green card because this visa permits for "dual purpose" employment. To get this visa, you'll need a job offer from a US employer, proof of the greatest degree of education, and proof that the firm can show the immigration office that this talent is unavailable in the US and that they'd rather hire from another country. When this petition is authorized, an applicant can enter the United States to work on an H-1B work visa. There were 200,000 requests for 85,000 visas when the US Citizen and Immigration Services (USCIS) held a lottery to choose H-1B visas. Because there are so many requests for this visa, the government decided to establish a limit each year. Because there were so many foreigners coming to the US on H-1B visas, Americans faced job loss. As a result, the president signed a petition titled "Buy American and Hire American" to put American products first and safeguard American workers.

GitHub: https://github.com/Sowmyadiya/DATA230-Project

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Objectives

The purpose of this visualization project is to examine visa applications in the United States from 2011 to 2016, as well as acceptance and denial rates and the number of H-1B visas filed for Data Analysts each year. The following are some of the questions that were answered to acquire an overall image of our analysis' wide category.

- Calculating the total number of applications from 2011 to 2016.Average Salary across the years for all the states in the United States.
- To see the total number of H-1B petitions submitted by state.
- Applications filed by companies from each state
- Companies from each state have submitted applications.
- Creating a visual representation of the H-1B status (certified, certified-withdrawn, withdrawn, refused).
- Calculating and showing each state's denial rate
- Visualizing the annual average denial rates?
- To see the approval-to-denial ratio for each state each year.
- What is the proportion of H-1B visa applications that are accepted by each employer?
- Visualizing the rise in the number of Data Analyst applications filed over time.
- Count and names of firms who have applied for an H-1B visa for a Data Analyst
- Graphing the wage ranges for Data Analysts
- Calculating and displaying the population of the United States vs the number of H-1B visa holders over time.

Dataset Description

The analysis of the H-1B application is carried out by collecting data from three sources. The details about the H-1B visa applicant is collected from Department of labor website and published in the Kaggle website. This dataset comprises H-1B petition data for the years 2011 to 2016, totaling around 3 million entries. The following are the attributes in the dataset capturing the details of the H-1B visa application. Case status, employer name, workplace coordinates, job description, prevailing salary, occupation code, and year filed are among the columns in the collection. The population and the total number of H-1B visa holders of the entire United States, state wise is collected from the United States Census Bureau. A detailed description of all the fields collected is presented below along with the sample datasets in the Figure 1 and Figure 2.

The dataset fields and description:

- **CASE_STATUS** : status of the application i.e., certified, certified-withdrawn, withdrawn, refused
- **EMPLOYER_NAME** : the name of the employer as registered in the H-1B Visa application
- **SOC_NAME** : the occupation code for the employment
- **JOB_TITLE** : the job title for the employment
- **FULL_TIME_POSITION** : whether the application is for a full-time position of for a part-time position
- **PREVAILING_WAGE** : the most frequent wage for the corresponding role as filled in the Visa application
- **YEAR** : the application year

- **WORKSITE** : the address of the employer worksite
- **Longitude** : longitude of the employer worksite
- **Latitude** : latitude of the employer worksite
- **STATE** : US state name
- **CITY** : city of each state
- **H-1B HOLDERS** : Number of H-1B visa holders
- **POPULATION** : Population in each state

Figure 1

Sample Dataset of H-1B Petition Data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	NAME	City	State	F1	CASE_STATUS	EMPLOYER_NAME	SOC_NAME	JOB_TITLE	FULL_TIME_	PREVAILING_WAGE	YEAR	WORKSITE	lon	lat
2	WYOMING	MENOMONE	WYOMING	2302273	CERTIFIED	REVEREIT LLC	Management Analysts	BUSINESS ANALYST	N	61256	2012	MENOMONEE FALLS, WYOMING		
3	WYOMING	ROCK SPRIN	WYOMING	2658702	DENIED	JOHN CHRISTIAN JACOBS INC	Market Research Analysts	MARKET RESEARCH ANALYST	N	30118.4	2011	ROCK SPRINGS, WYOMI	-109.2029043	41.5874644
4	WYOMING	APPLETON	WYOMING	94796	WITHDRAWN	IBM INDIA PRIVATE LIMITED	COMPUTER SYSTEMS ANALYSTS	CONSULTANT ORACLE RETAIL	N	62317	2016	APPLETON, WYOMING		
5	WYOMING	JACKSON	WYOMING	2615099	CERTIFIED	SPRING CREEK RANCH MANAGE	Financial Managers	ACCOUNTING MANAGER	Y	70574.4	2012	JACKSON, WYOMING	-110.7624282	43.4799291
6	WYOMING	JACKSON	WYOMING	2467615	CERTIFIED	ERNEST H PATTERSON	Veterinary Technologists and Technicians	VETERINARY TECHNOLOGIST	Y	24648	2012	JACKSON, WYOMING	-110.7624282	43.4799291
7	WYOMING	LARAMIE	WYOMING	194201	CERTIFIED	ORACLE AMERICA INC	COMPUTER SYSTEMS ANALYSTS	CONSULTING TECHNICAL MANA	Y	90813	2016	LARAMIE, WYOMING	-105.5911007	41.3113669
8	WYOMING	GREEN RIVE	WYOMING	106023	CERTIFIED	UNIFY SOLUTIONS INC	COMPUTER SYSTEMS ANALYSTS	COMPUTER SYSTEMS ANALYST	N	47944	2016	GREEN RIVER, WYOMING		
9	WYOMING	GREEN RIVE	WYOMING	107694	CERTIFIED	DELOITTE CONSULTING LLP	COMPUTER SYSTEMS ANALYSTS	MANAGER	N	65686	2016	GREEN RIVER, WYOMING		
10	WYOMING	GREEN RIVE	WYOMING	152763	CERTIFIED	NU INFO SYSTEMS INC	COMPUTER SYSTEMS ANALYSTS	SYSTEMS ANALYST	N	65686	2016	GREEN RIVER, WYOMING		
11	WYOMING	JACKSON	WYOMING	72448	CERTIFIED	STK CAPITAL LLC	FINANCIAL ANALYSTS	FINANCIAL ANALYST	N	46987	2016	JACKSON, WYOMING	-110.7624282	43.4799291
12	WYOMING	CHEYENNE	WYOMING	84248	CERTIFIED-WITHDRAWN	SIERRACEDAR INC	COMPUTER SYSTEMS ANALYSTS	SENIOR PEOPLESOFT SPECIALIS	N	50669	2016	CHEYENNE, WYOMING	-104.8202462	41.1399814
13	WYOMING	CHEYENNE	WYOMING	84369	CERTIFIED-WITHDRAWN	SIERRACEDAR INC	COMPUTER SYSTEMS ANALYSTS	SENIOR PEOPLESOFT SPECIALIS	N	50669	2016	CHEYENNE, WYOMING	-104.8202462	41.1399814
14	WYOMING	LARAMIE	WYOMING	1415437	CERTIFIED	UNIVERSITY OF WYOMING	Public Relations and Fundraising Manager	PROGRAM COORDINATOR	Y	97365	2014	LARAMIE, WYOMING	-105.5911007	41.3113669
15	WYOMING	CHEYENNE	WYOMING	972832	CERTIFIED	AXSOLUTIONS LLC	COMPUTER SYSTEMS ANALYSTS	SENIOR TECHNICAL LEAD MICR	Y	53290	2015	CHEYENNE, WYOMING	-104.8202462	41.1399814
16	WYOMING	JACKSON	WYOMING	971039	CERTIFIED	MMG MANAGEMENT CONSULTI	OPERATIONS RESEARCH ANALYSTS	OPERATIONS RESEARCH ANALY	Y	42931	2015	JACKSON, WYOMING	-110.7624282	43.4799291
17	WYOMING	CHEYENNE	WYOMING	5644	CERTIFIED	SALT GROUP LLC	MARKETING MANAGERS	MARKETING DIRECTOR	Y	100630	2016	CHEYENNE, WYOMING	-104.8202462	41.1399814
18	WYOMING	GREEN BAY	WYOMING	2557713	CERTIFIED-WITHDRAWN	ENTERPRISE SOLUTIONS INC	Computer Systems Analysts	PROGRAMMER ANALYST	Y	69909	2012	GREEN BAY, WYOMING		
19	WYOMING	GILLETTE	WYOMING	1431940	CERTIFIED-WITHDRAWN	WILLBROS UNITED STATES HOL	General and Operations Managers	GENERAL MANAGER NORTHEA	Y	108098	2014	GILLETTE, WYOMING		
20	WYOMING	CHEYENNE	WYOMING	2982815	CERTIFIED	DYNO NOBEL INC	Architectural and Engineering Managers	NORTH AMERICAN ENGINEERIN	Y	99382	2011	CHEYENNE, WYOMING	-104.8202462	41.1399814
21	WYOMING	CASPER	WYOMING	2810953	CERTIFIED	WYOMING MEDICAL CENTER	Compensation and Benefits Managers	BENEFITS SPECIALIST	Y	65769.6	2011	CASPER, WYOMING	-106.313081	42.866632
22	WYOMING	CHEYENNE	WYOMING	2826603	CERTIFIED	MOLINA INFORMATION SYSTEM	Computer Systems Analysts	SYSTEMS ANALYST III	Y	50315	2011	CHEYENNE, WYOMING	-104.8202462	41.1399814
23	WYOMING	CHEYENNE	WYOMING	2739345	CERTIFIED	CHEYENNE REGIONAL MEDICAL	Computer Systems Analysts	TECHNICAL PROJECT MANAGER	Y	50315	2011	CHEYENNE, WYOMING	-104.8202462	41.1399814
24	WYOMING	JACKSON	WYOMING	528796	CERTIFIED	CHRISTOPHER T LEE	ARCHITECTS, EXCEPT LANDSCAPE AND NA	ARCHITECTURAL DRAFTER	N	44948.8	2016	JACKSON, WYOMING	-110.7624282	43.4799291
25	WYOMING	LARAMIE	WYOMING	128084	CERTIFIED	UL LLC	COMPUTER SYSTEMS ANALYSTS	IT ASSOCIATE BUSINESS SYSTEI	N	49275	2016	LARAMIE, WYOMING	-105.5911007	41.3113669
26	WYOMING	JACKSON	WYOMING	66067	CERTIFIED	HANDLE IT INC	CREDIT ANALYSTS	CREDIT ANALYST CONSULTANT	N	47778	2016	JACKSON, WYOMING	-110.7624282	43.4799291
27	WYOMING	LARAMIE	WYOMING	593145	CERTIFIED	UNIVERSITY OF WYOMING	EDUCATIONAL, GUIDANCE, SCHOOL, AND	COORDINATOR FOR STUDENT A	N	38709	2016	LARAMIE, WYOMING	-105.5911007	41.3113669
28	WYOMING	GREEN RIVE	WYOMING	29228	CERTIFIED	DELOITTE TOUCHE LLP	MANAGEMENT ANALYSTS	ERS SENIOR CONSULTANT	N	48110	2016	GREEN RIVER, WYOMING		
29	WYOMING	JACKSON	WYOMING	36185	CERTIFIED	MMG MANAGEMENT CONSULTI	MANAGEMENT ANALYSTS	BUSINESS ANALYST	N	48110	2016	JACKSON, WYOMING	-110.7624282	43.4799291
30	WYOMING	JACKSON	WYOMING	36334	CERTIFIED	MMG MANAGEMENT CONSULTI	MANAGEMENT ANALYSTS	MANAGEMENT ANALYST	N	48110	2016	JACKSON, WYOMING	-110.7624282	43.4799291
31	WYOMING	CHEYENNE	WYOMING	52095	CERTIFIED	PURE BRAZILIAN	MARKET RESEARCH ANALYSTS AND MARI	DIRECTOR OF MARKETING	N	33758	2016	CHEYENNE, WYOMING	-104.8202462	41.1399814
32	WYOMING	THERMOPOL	WYOMING	635900	CERTIFIED	WILLIAM H CARRIE GOTTSCHE F	OCCUPATIONAL THERAPISTS	OCCUPATIONAL THERAPIST	N	48090	2016	THERMOPOLIS, WYOMING		
33	WYOMING	JACKSON	WYOMING	528793	DENIED	DESIGN ASSOCIATES ARCHITECT	ARCHITECTS, EXCEPT LANDSCAPE AND NA	PROJECT ARCHITECT	N	44948.8	2016	JACKSON, WYOMING	-110.7624282	43.4799291
34	WYOMING	ROCK SPRIN	WYOMING	2986670	DENIED	PEAK ENERGY SERVICES	Architectural and Engineering Managers	BRANCH MANAGER	Y	80330	2011	ROCK SPRINGS, WYOMI	-109.2029043	41.5874644
35	WYOMING	CHEYENNE	WYOMING	2811566	DENIED	MOLINA INFORMATION SYSTEM	Computer Systems Analysts	SYSTEMS ANALYST III	Y	50315	2011	CHEYENNE, WYOMING	-104.8202462	41.1399814
36	WYOMING	JACKSON	WYOMING	2671647	DENIED	FINE DINING RESTARAUNT GRO	First-Line Supervisors/Managers of Food F	KITCHEN MANAGER	Y	35214	2011	JACKSON, WYOMING	-110.7624282	43.4799291
37	WYOMING	WYOMING	WYOMING	2646522	DENIED	MILL VALLEY SHEEPSKIN AND LE	First-Line Supervisors/Managers of Retail	RETAIL AND CUSTOMER SERVICE	Y	42786	2011	WYOMING, WYOMING		
38	WYOMING	JACKSON	WYOMING	2679500	DENIED	MILL VALLEY SHEEPSKIN AND LE	First-Line Supervisors/Managers of Retail	RETAIL AND CUSTOMER SERVICE	Y	42786	2011	JACKSON, WYOMING	-110.7624282	43.4799291
39	WYOMING	JACKSON	WYOMING	2769169	DENIED	MILL VALLEY SHEEPSKIN AND LE	First-Line Supervisors/Managers of Retail	RETAIL AND CUSTOMER SERVICE	Y	42786	2011	JACKSON, WYOMING	-110.7624282	43.4799291

Figure 2

Dataset of Population and Count of H-1B Visa Holders

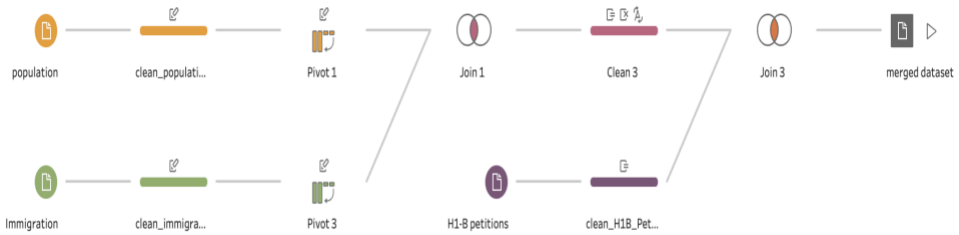
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	SUMLEV	REGION	DIVISION	STATE	NAME	CENSUS201(	ESTIMATESB	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	POPESTIMAT	NPOPCHG_2(
2	10	0	0	0	United State	308745538	308758105	309321666	311556874	313830990	315993715	318301008	320635163	322941311	324985539	326687501	328239523	563561
3	20	1	0	0	Northeast Re	55317240	55318443	55380134	55604223	55775216	55901806	56006011	56034684	56042330	56059240	56046620	55982803	61691
4	20	2	0	0	Midwest Reg	66927001	66929725	66974416	67157800	67336743	67560379	67745167	67860583	67987540	68126781	68236628	68329004	44691
5	20	3	0	0	South Regior	114555744	114563030	114866680	116006522	117241208	118364400	119624037	120997341	122351760	123542189	124569433	125580448	303650
6	20	4	0	0	West Region	71945553	71946907	72100436	72788329	73477823	74167130	74925793	75742555	76559681	77257329	77834820	78347268	153529
7	40	3	6	1	Alabama	4779736	4780125	4785437	4799069	4815588	4830081	4841799	4852347	4863525	4874486	4887681	4903185	5312
8	40	4	9	2	Alaska	710231	710249	713910	722128	730443	737068	736283	737498	741456	739700	735139	731545	3661
9	40	4	8	4	Arizona	6392017	6392288	6407172	6472643	6554978	6632764	6730413	6829676	6941072	7044008	7158024	7278717	14884
10	40	3	7	5	Arkansas	2915918	2916031	2921964	2940667	2952164	2959400	2967392	2978048	2989918	3001345	3009733	3017804	5933
11	40	4	9	6	California	37253956	37254519	37319502	37638369	37948800	38260787	38596972	38918045	39167117	39358497	39461588	39512223	64983
12	40	4	8	8	Colorado	5029196	5029319	5047349	5121108	5192647	5269035	5350101	5450623	5539215	5611885	5691287	5758736	18030
13	40	1	1	9	Connecticut	3574097	3574147	3579114	3588283	3594547	3594841	3594524	3587122	3578141	3573297	3571520	3565287	4967
14	40	3	5	10	Delaware	897934	897937	899593	907381	915179	923576	932487	941252	948921	956823	965479	973764	1656
15	40	3	5	11	District of Co	601723	601767	605226	619800	634924	650581	662328	675400	685815	694906	701547	705749	3459
16	40	3	5	12	Florida	18801310	18804564	18845537	19053237	19297822	19545621	19845911	20209042	20613477	20963613	21244317	21477737	40973
17	40	3	5	13	Georgia	9687653	9688729	9711881	9802431	9901430	9972479	10067278	10178447	10301890	10410330	10511131	10617423	23152
18	40	4	9	15	Hawaii	1360301	1360307	1363963	1379329	1394804	1408243	1414538	1422052	1427559	1424393	1420593	1415872	3656
19	40	4	8	16	Idaho	1567582	1567657	1570746	1583910	1595324	1611206	1631112	1651059	1682380	1717715	1750536	1787065	3089
20	40	2	3	17	Illinois	12830632	12831572	12840503	12867454	12882510	12895129	12884493	12858913	12820527	12778828	12723071	12671821	8931
21	40	2	3	18	Indiana	6483802	6484051	6490432	6516528	6537703	6568713	6593644	6608422	6634304	6658078	6695497	6732219	6381
22	40	2	4	19	Iowa	3046355	3046871	3050745	3066336	3076190	3092997	3109350	3120960	3131371	3141550	3148618	3155070	3874
23	40	2	4	20	Kansas	2853118	2853123	2858190	2869225	2885257	2893212	2900475	2909011	2910844	2908718	2911359	2913314	5067

Data Processing

The data in the Kaggle dataset was retrieved from a government website, therefore it is trustworthy. Because the data was scraped from a website, it has a few missing values that must be addressed before we proceed with the visualization. The preparation of the dataset is done with a tableau prep builder. There are null values, duplicate records, and duplicated attributes in the H-1B petition collection, which spans the years 2011 to 2016. The dataset is cleaned up by removing the noisy attributes. Preprocessing is also required for some properties, such as splitting the location into state and city values, assigning geographic roles to those fields, and renaming the field names. The other two datasets were pivoted then the state and city column were split and renamed to be used in merging all the datasets. The flow diagram implemented in the tableau prep builder for preparing the dataset for visualization is displayed in the Figure 3. The population and the immigration dataset were loaded into tableau prep builder, the irrelevant attributes was removed and the count of population was pivoted. These two datasets were merged based on the state names. Now, the main H-1B dataset was loaded and a series of

cleaning steps were undertaken. After this step this dataset is merged with the previous merged datasets which was utilized in this visualization.

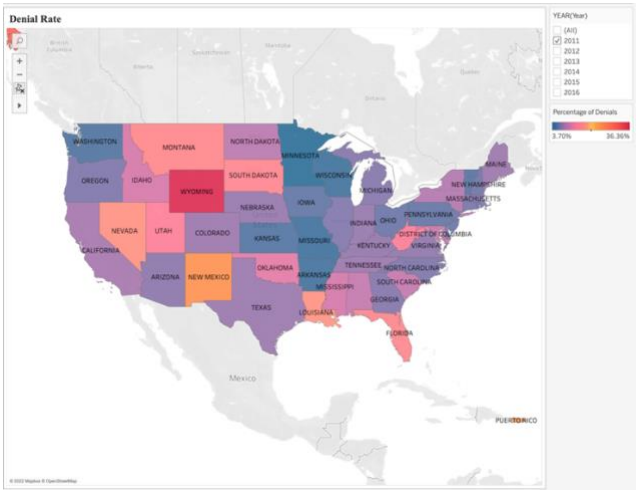
Figure 3



Visualizations

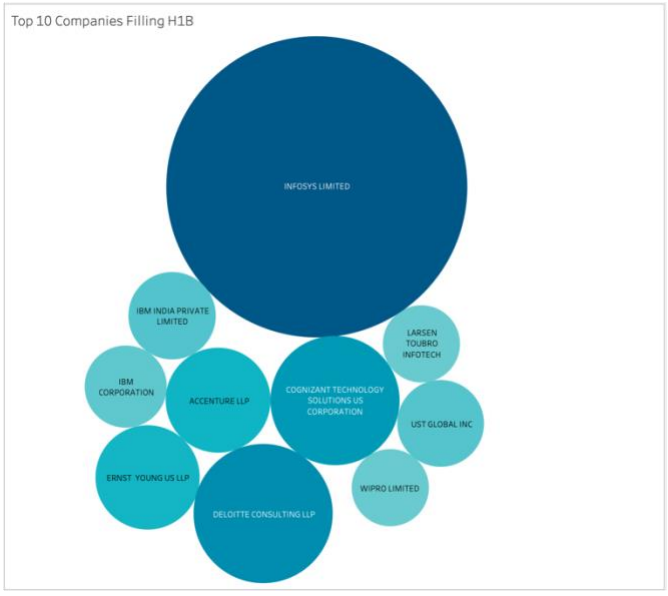
To visualize the H-1B petition trends from 2011 to 2016 various forms of graph is used in this project. The below chart is visualized using a choropleth map. The Color is used in choropleth maps to highlight how data changes over time. We may use these maps to depict information related to geography, as well as compare and evaluate data from different regions as shown in Figure 4.

Figure 4



The below visualization is done using a bubble chart. In bubble charts, data is represented by a cluster of circles. The measure field values indicate the size of the circles, whereas the dimension field values represent the size of the circles. You can drag the required fields to other shelves under the marks card since the data will not be shown in any row or column as shown in Figure 5.

Figure 5



Data from a dataset is shown by category using a bar chart or graph. The length of the bar's correlates to the value that each category represents. This gives the data a visual representation. The bar chart is a useful tool for displaying quantity comparisons as shown in Figure 6.

Figure 6

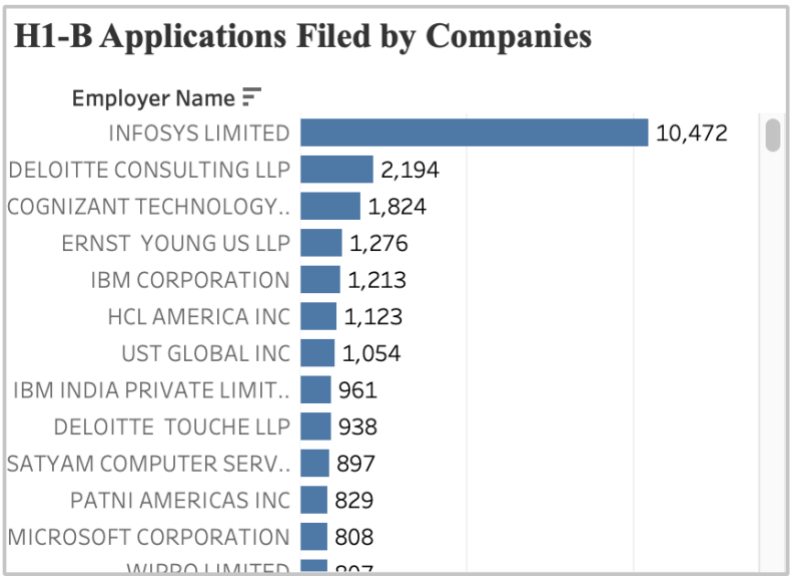
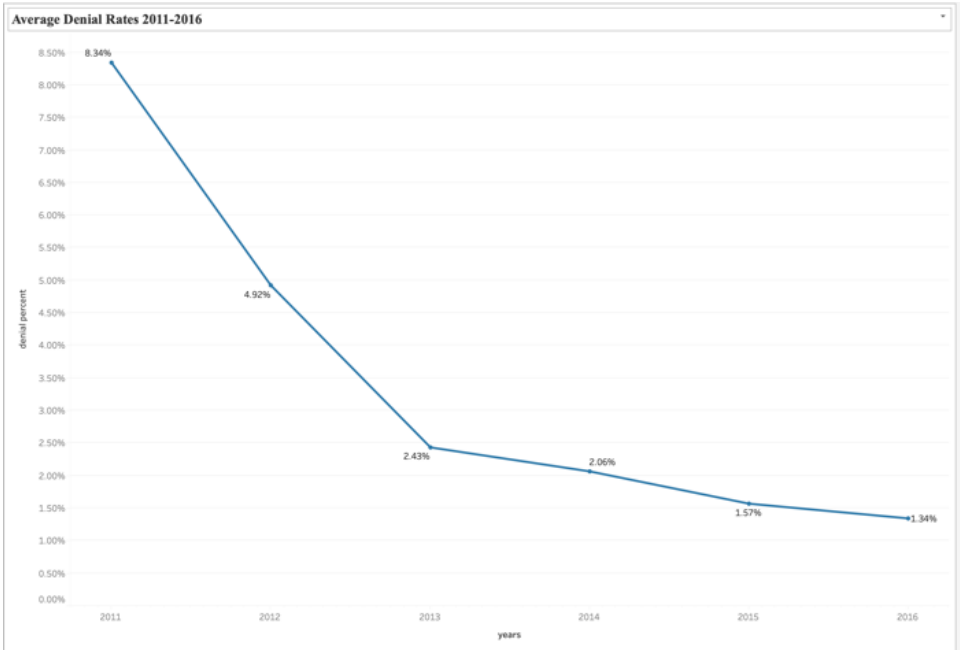


Figure 7 is a line chart depicting the average denial rates from 2011 to 2016. A line chart is used to link all the datapoints to display a pattern. It aids in the comprehension of trends and the comparison of two trends and their relationships. It also aids in the prediction of future values by examining previous trends.

Figure 7

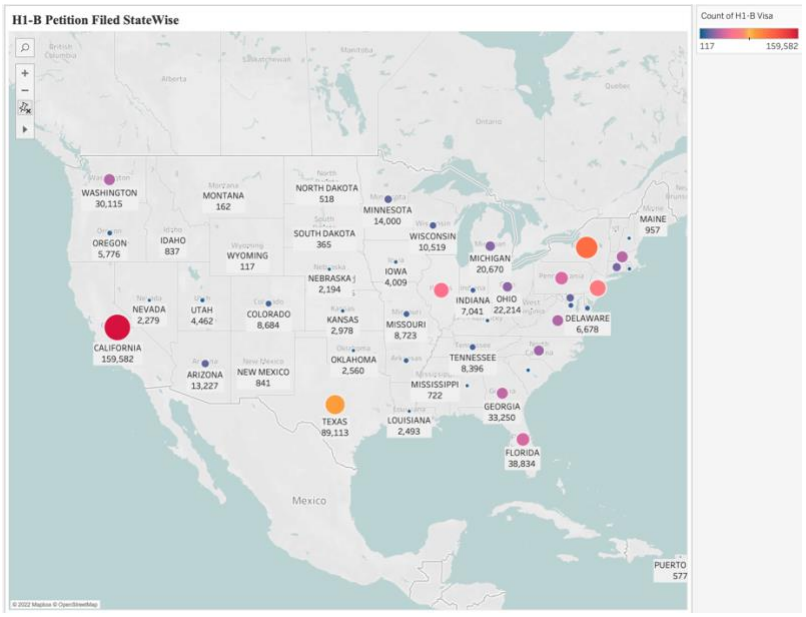


USE CASES

1. **The number of petitions filled by each state for all the years from 2011 to 2016 is visualized**

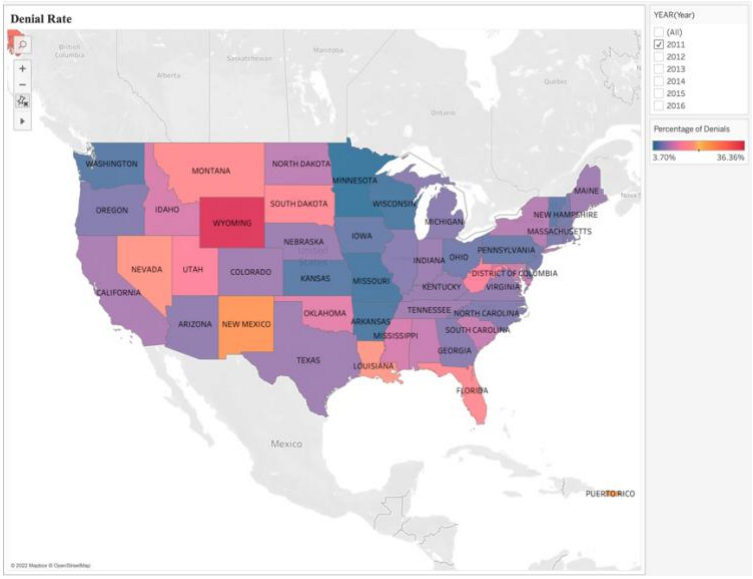
The following are the visualizations made to answer each of our objectives. Here the number of petitions filled by each state for all the years from 2011 to 2016 is visualized. The states contributing to the highest number of applications is projected using size and color feature. It is clear from the below map, that the California state has the highest number of applicants and Wyoming has the lowest number of applicants as shown in the Figure 8.

Figure 8



2. **The denial rate of each state for the all the years**

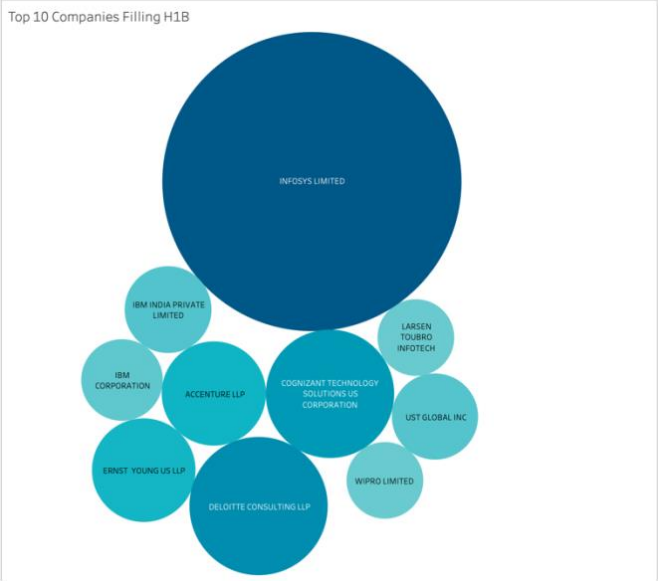
Figure 9



The Figure 9 presents the denial rate of each state for the all the years with filters on the right side of the chart. Here, only the 2011 data is presented which clearly shows that the Wyoming state has the highest rejections.

3. The top 10 companies filing the H-1B visa

Figure 10



Here, the top 10 companies filing the H-1B visa is visualized. The maximum applications are submitted by the service-based companies in which Infosys contributed a larger part as shown in Figure 10.

4. **The number of applications each organization has submitted**

Figure 11

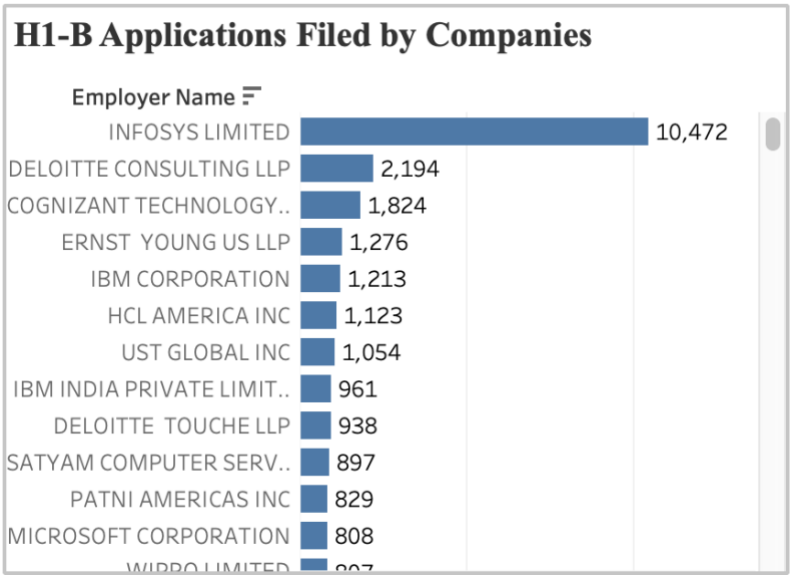


Figure 11 shows the number of applications each organization has submitted. Infosys files a bigger application, as seen by the size of the bar.

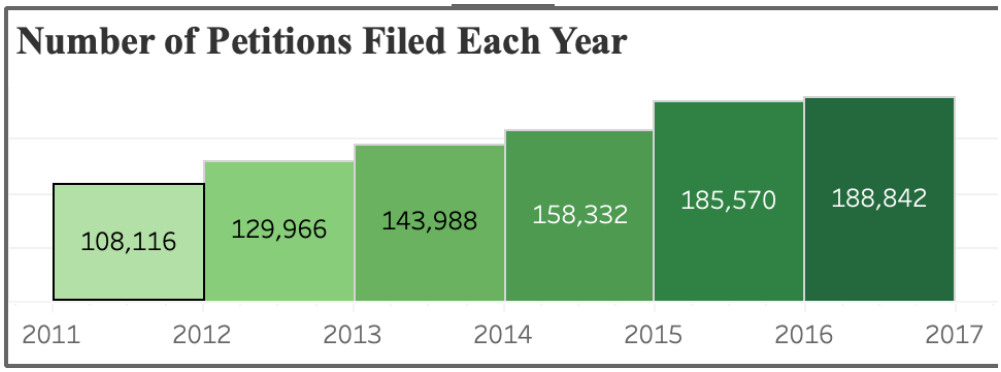
5. **The count of applications which was certified, denied, withdrawn and certified withdrawn**

Figure 12

This is also a bar chart, which represents the count of applications which was certified, denied, withdrawn and certified withdrawn. The chart clearly says that most of the application was certified and the count of applications which was denied and withdrawn certified are the same. The legend on the top right corner shows that 810603 applications were certified, and 25429 applications were denied as shown in Figure 12.

6. **The number of applications submitted each year**

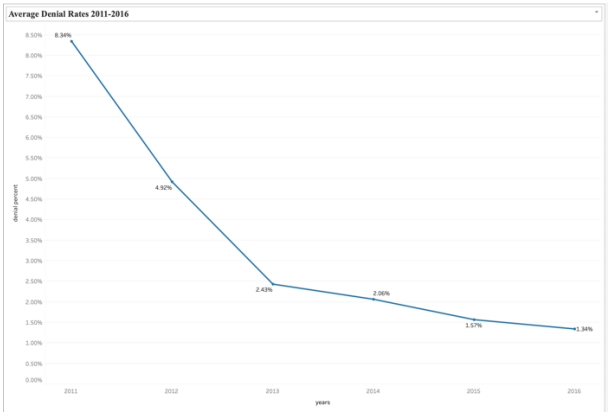
Figure 13



The number of applications submitted each year is represented in Figure 13. The graph shows that the applications were increased as we go up the years and it has reached a county of 188,842 in the year 2016, it is a way above the cap 85000 estimated by the government.

7. Percentage of denial from 2011 to 2016

Figure 14



The percentage of denial is calculated using the calculated fields and plotted on a line chart. From the graph it is evident that the denial rate was high in the year 2011 with 8.34% and it gradually dropped and reached 1.34% in the year 2016.

8. The number of H-1B petitions for data analysts submitted between 2011 and 2016

Figure 15

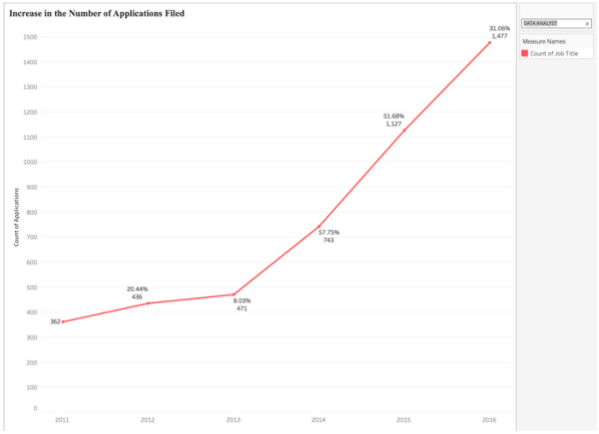
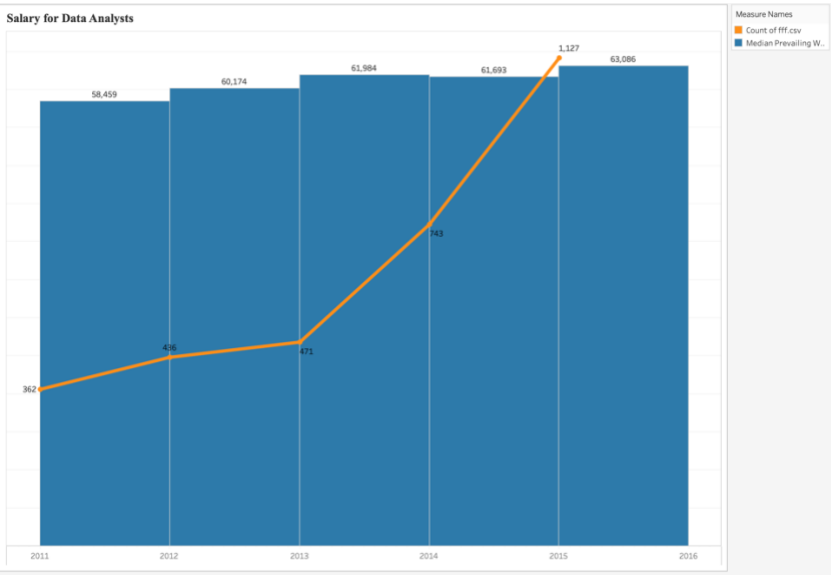


Figure 15 is a line graph depicting the number of H-1B petitions for data analysts submitted between 2011 and 2016. Only 362 applications for data analysts were submitted in 2011, while 436 applications were submitted the following year, representing a dramatic 21 percent rise. The number of candidates increased year over year, reaching 1477 in 2016. The entire percentage growth is also shown to show how much has changed from year to year.

9. The average compensation for a data analyst

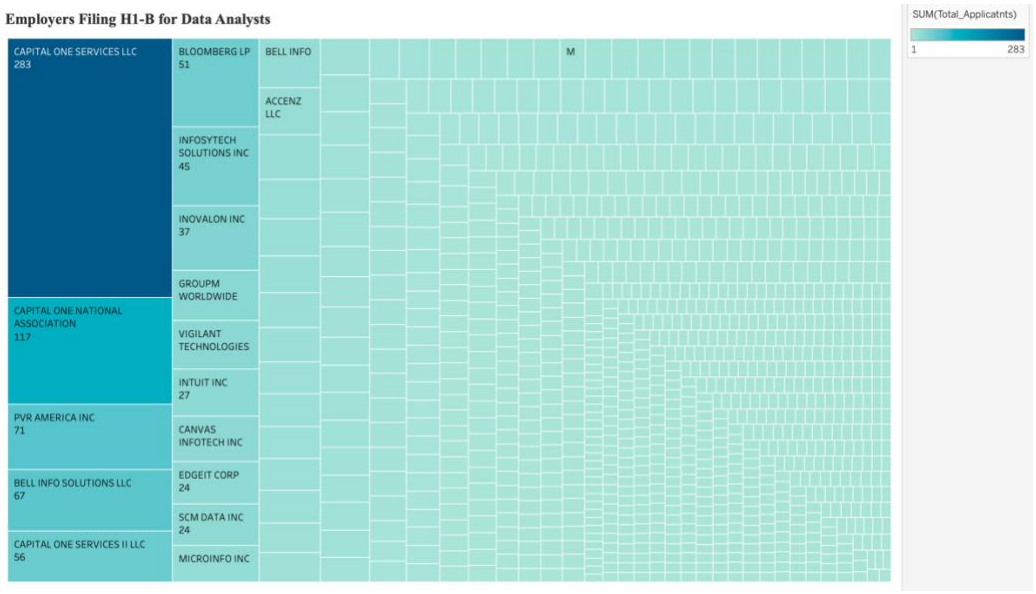
Figure 16



The average compensation for a data analyst is depicted as a bar graph with the average income and a line graph with the number of applications received as shown in Figure 16. The line graph illustrates that demand for data analysts has grown year over year, with the average compensation rising from 58,500 to 63,000 dollars. Even if this is not a significant adjustment, we can be confident that the wage will rise in the next years.

10. Employers filing H-1B visas for data analysts

Figure 17



Employers filing H-1B visas for data analysts are represented in the graph above. Capital one services LLC has the most applications, while ZC Associate INC has the fewest, with only one applicant. All the firms listed above create a lot of data, and they want analysts to help them make sense of it. The legend displays the maximum and minimum applicants count.

11. the annual ratio of the US population to the number of H-1B visa holders

Figure 18

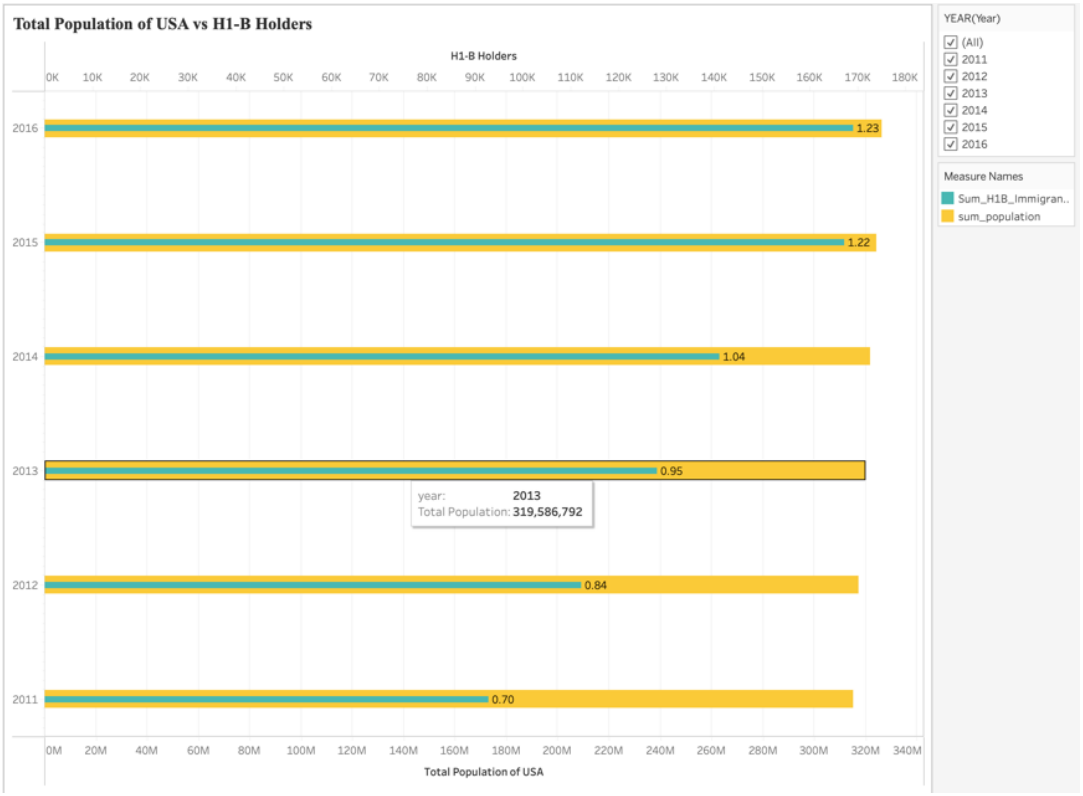
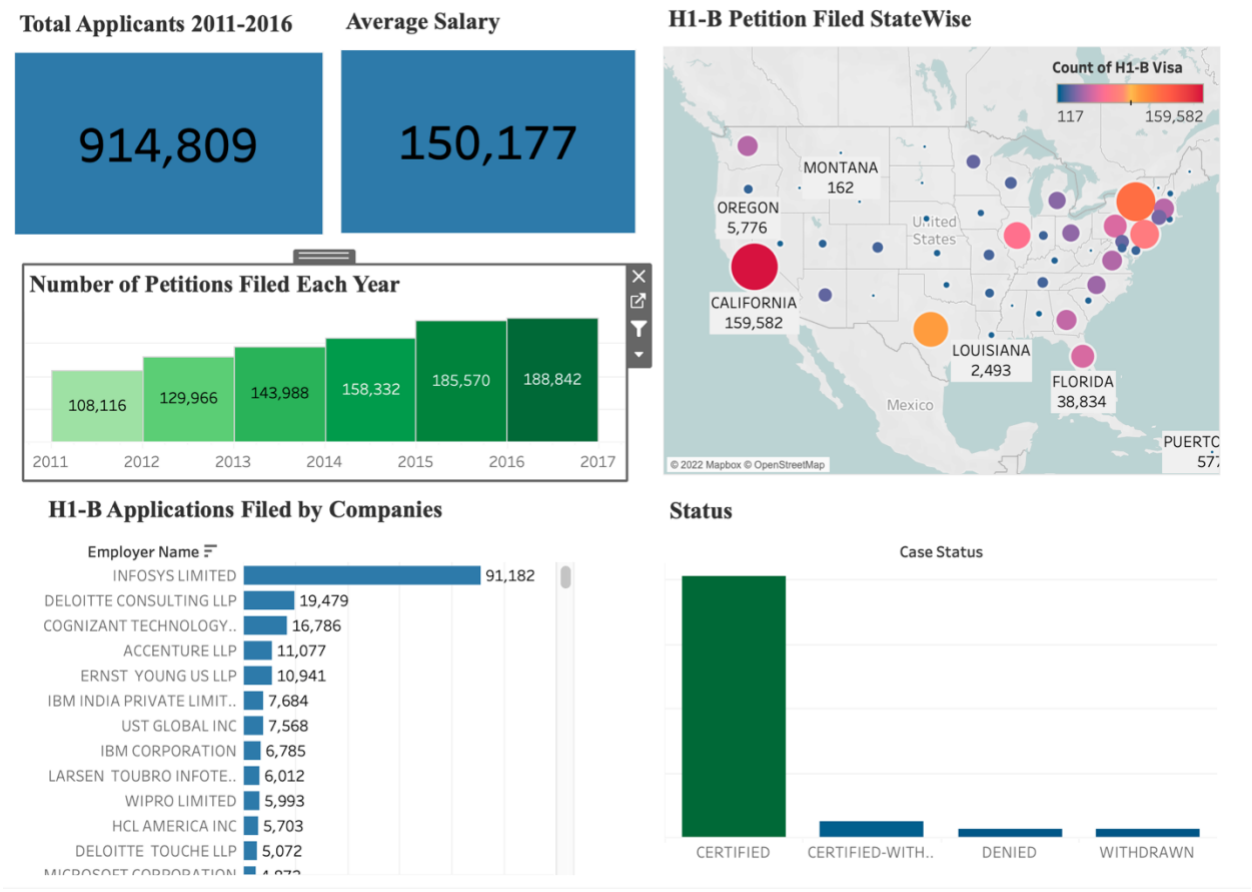


Figure 18 depicts the annual ratio of the US population to the number of H-1B visa holders. In 2011, just 0.70 percent of the general population had an H-1B visa. This percentage has risen steadily over time, reaching 1.23 percent in 2016. According to the graph, the population of the United States was around 319,586,792, with 0.95 percent of the population being H-1B visa holders.

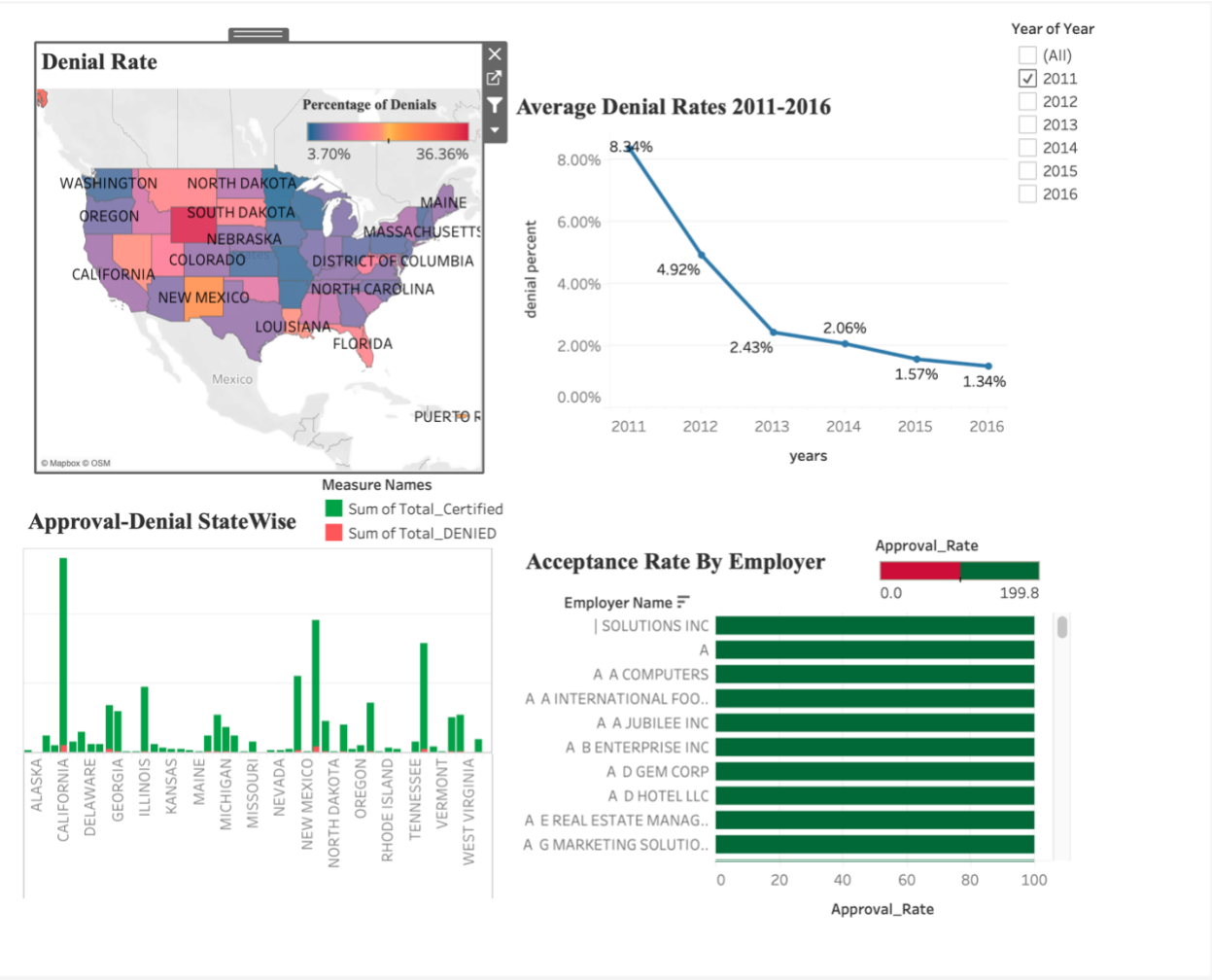
Dashboards

The below dashboards are interactive, where the visualizations change when the year is modified. Also, the map representation is interactive which helps to visualize a particular state in more detail.

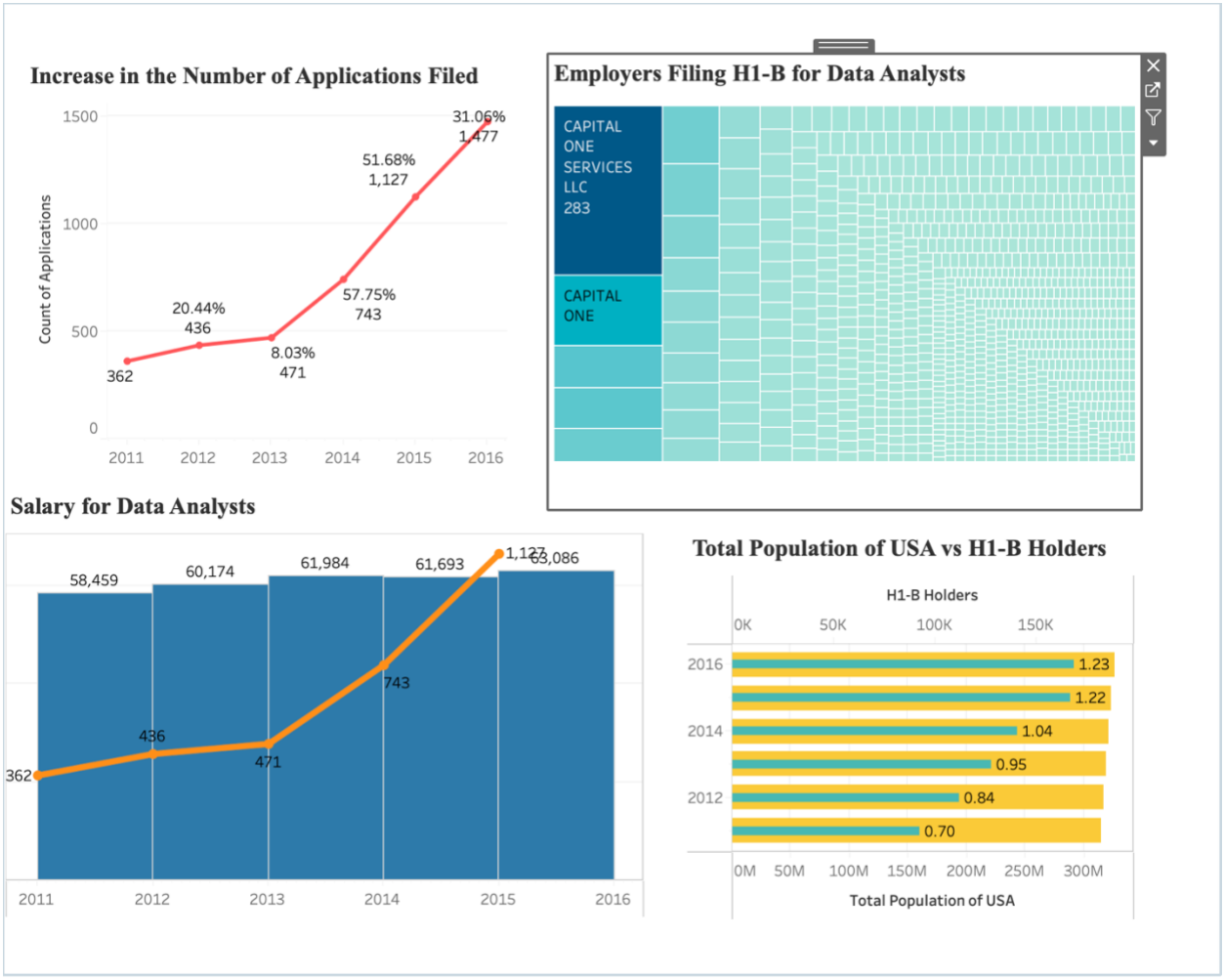
Dashboard 1:



Dashboard 2

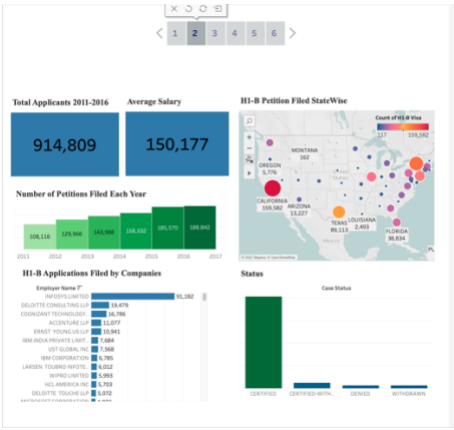

Denial Rate
Percentage of Denials
3.70%
36.36%
WASHINGTON
NORTH DAKOTA
OREGON
SOUTH DAKOTA
MAINE
NEBRASKA
MASSACHUSETTS
COLORADO
DISTRICT OF COLUMBIA
CALIFORNIA
NORTH CAROLINA
NEW MEXICO
LOUISIANA
FLORIDA
Mexico
PUERTO R
© Mapbox © OSM
Average Denial Rates 2011-2016
8.34%
4.92%
2.43%
2.06%
1.57%
1.34%
8.00%
6.00%
4.00%
2.00%
0.00%
denial percent
2011
2012
2013
2014
2015
2016
years
Year of Year
(All)
2011
2012
2013
2014
2015
2016
Measure Names
Sum of Total_Certified
Sum of Total_DENIED
Approval-Denial StateWise
ALASKA
CALIFORNIA
DELAWARE
GEORGIA
ILLINOIS
KANSAS
MAINE
MICHIGAN
MISSOURI
NEVADA
NEW MEXICO
NORTH DAKOTA
OREGON
RHODE ISLAND
TENNESSEE
VERMONT
WEST VIRGINIA
Acceptance Rate By Employer
Approval_Rate
0.0
199.8
Employer Name
| SOLUTIONS INC
A
A A COMPUTERS
A A INTERNATIONAL FOO..
A A JUBILEE INC
A B ENTERPRISE INC
A D GEM CORP
A D HOTEL LLC
A E REAL ESTATE MANAG..
A G MARKETING SOLUTIO..
0
20
40
60
80
100
Approval_Rate

Dashboard 3

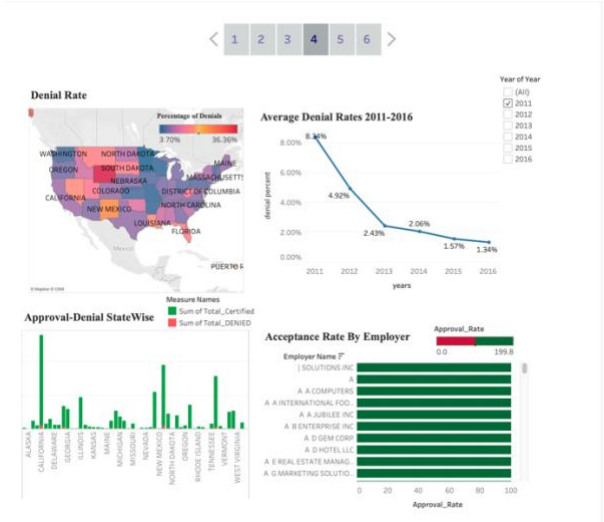

Increase in the Number of Applications Filed
Count of Applications
1500
1000
500
0
362
20.44%
436
8.03%
471
57.75%
743
51.68%
1,127
31.06%
1,477
2011
2012
2013
2014
2015
2016
Employers Filing H1-B for Data Analysts
CAPITAL ONE SERVICES LLC 283
CAPITAL ONE
Salary for Data Analysts
58,459
60,174
61,984
61,693
63,086
362
436
471
743
1,127
2011
2012
2013
2014
2015
2016
Total Population of USA vs H1-B Holders
H1-B Holders
0K
50K
100K
150K
2016
1.23
1.22
2014
1.04
0.95
2012
0.84
0.70
0M
50M
100M
150M
200M
250M
300M
Total Population of USA

Story


1 2 3 4 5 6
Analysis of H1B Visa Applications From 2011-2016
US H1-B VISA


1 2 3 4 5 6
Total Applicants 2011-2016
914,809
Average Salary
150,177
H1-B Petition Filed StateWise
Number of Petitions Filed Each Year
H1-B Applications Filed by Companies
Status


1 2 3 4 5 6
Approval and Denial Rates
H-1B
REJECTED
H-1B
APPROVED


1 2 3 4 5 6
Denial Rate
Average Denial Rates 2011-2016
Approval-Denial StateWise
Acceptance Rate By Employer

Future Work

This study will be expanded for the following years to look at what happened after the president signed the "Buy American, Hire American" Petition. The income and demand for other jobs will also be examined since we have only focused on Data Analysts in this depiction. In addition, the number of H-1B candidates who file for PERM and citizenship will be examined.

Conclusion

The patterns depicted in this project offer a clear list of organizations who sponsor H-1B visas in the United States for various professions. California, Massachusetts, New York, and Washington are the most popular states for filing H-1B visas. The average pay of the data analyst is presented, indicating that this position is in high demand, with the compensation likely to rise with time. Furthermore, the number of applications has above the government's normal quota, demonstrating the need for the "Buy American Hire American" petition. The visualization also clearly indicates which companies file the most H-1B visas, allowing applicants to target such companies when applying for job in the United States.