Project 1 Group 3

Introduction to the Data-Related Job Market

Amanda Pesch, Chloe Lee, John Burke, David Mueller, Rna Babikar

Introduction & Objectives

- What is the job market *currently* and what is the job market in *recent years* for **data-related jobs**? We'll be heading into this market soon and what better time to start looking, while utilizing our coding skills!
- **Our objective:** explore the job market for data-related jobs within the U.S., by analyzing current and recent data sources.
- See our README.md file for details on data sources, questions asked, and analysis

Our focus was to have an overview to the employment number per sector in the United State of America per state.

And find answers to:

- Q1. What are the top 15 sector
- Q2. What are the employment and projection for computer system design and related services for (2029).
- Q3. What are the number of graduates by major for top 8 states graduates.

May 2020 National Industry Specific Occupational Employment and Wage Estimates(OEWS)
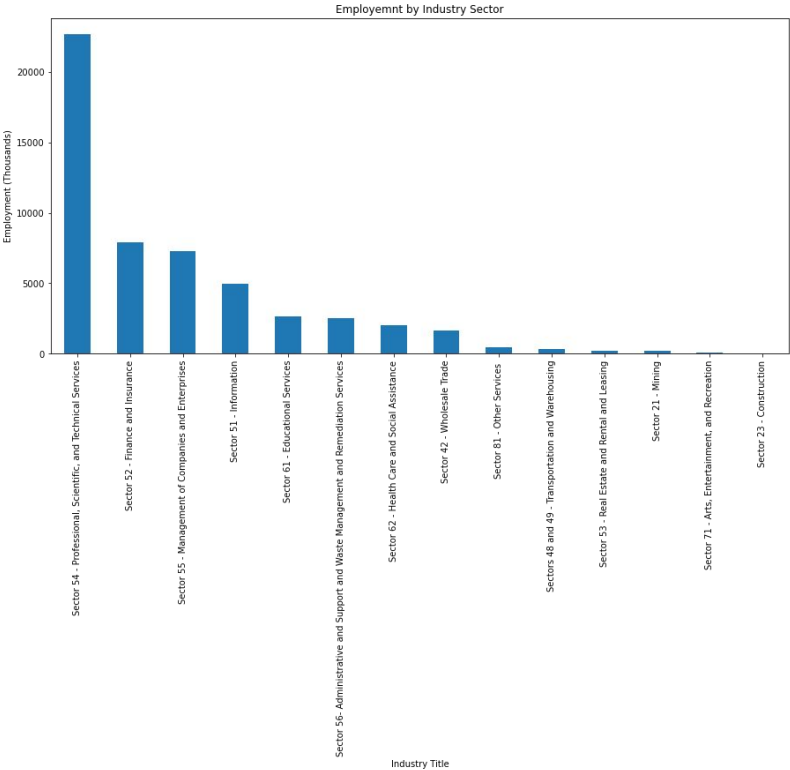

Fig (1): Employment by Industry Sector. Shows top 15 sector in the united state, per employment.

sectors were classified according to the north american industry classification system(NAICS).

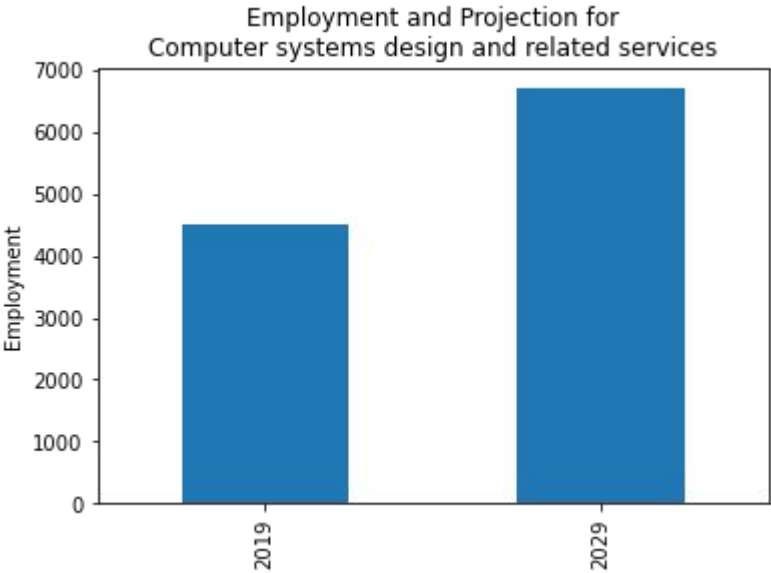Data source U.S. Bureau of Statistics.

Fig (2): Employment and projection for computer system design and related services

Data source U. S. Bureau of Statistics.
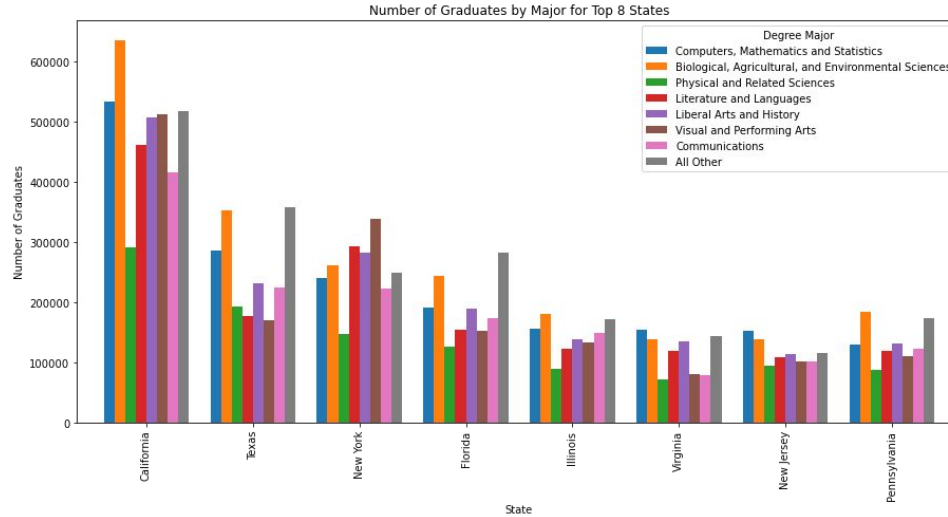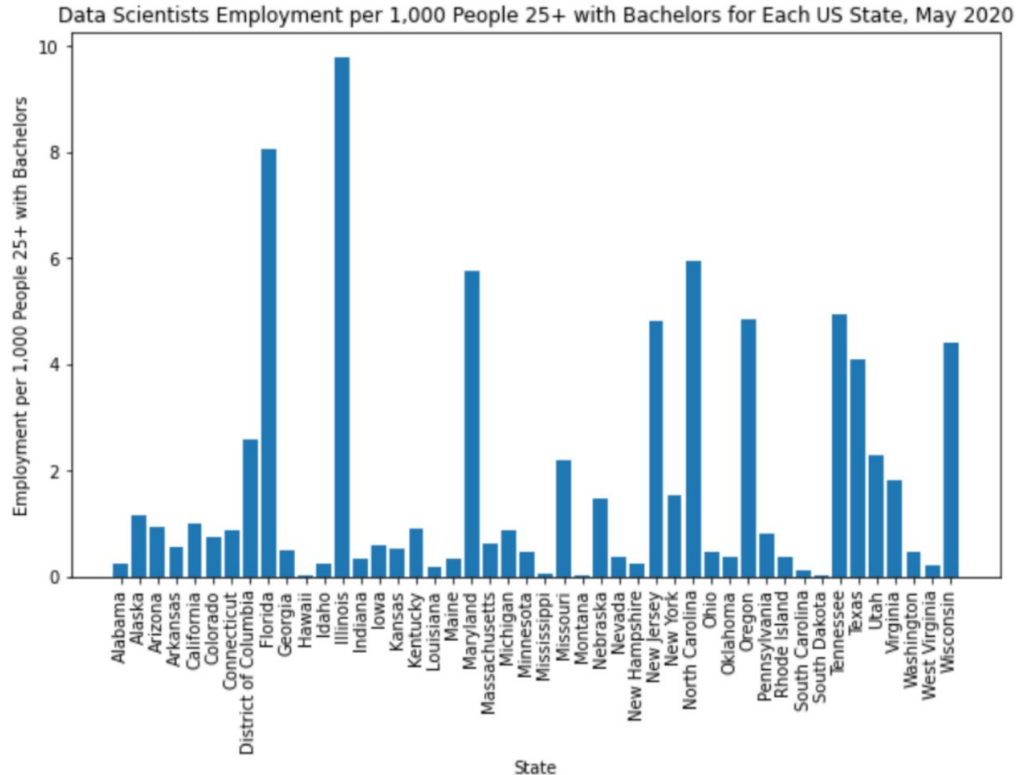
Graduates in the united state

Fig (3): Number of graduates by major for top 8 states graduates

Data source U.S. Bureau of Statistics.

Dave's Analysis

Data Scientists Employment per 1,000 People 25+ with Bachelors for Each US State, May 2020

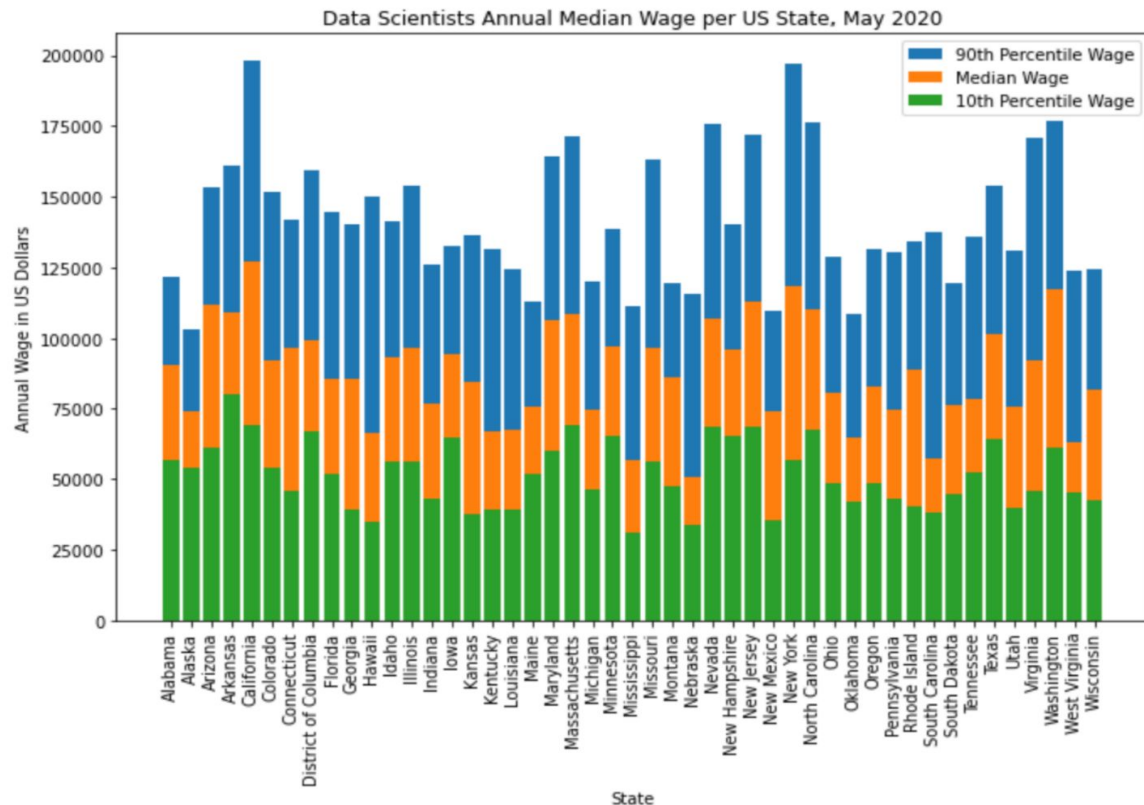| State	Employment per 1,000 People 25+ with Bachelors
Illinois	9.772616
Florida	8.061600
North Carolina	5.930086
Maryland	5.744698
Tennessee	4.917875

Notes: No data for US states Delaware, New Mexico, North Dakota, Vermont, and Wyoming.
Source: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics; US Census, 2019 ACS 1-Year Estimate.

Dave's Analysis

Data Scientists Annual Median Wage per US State, May 2020

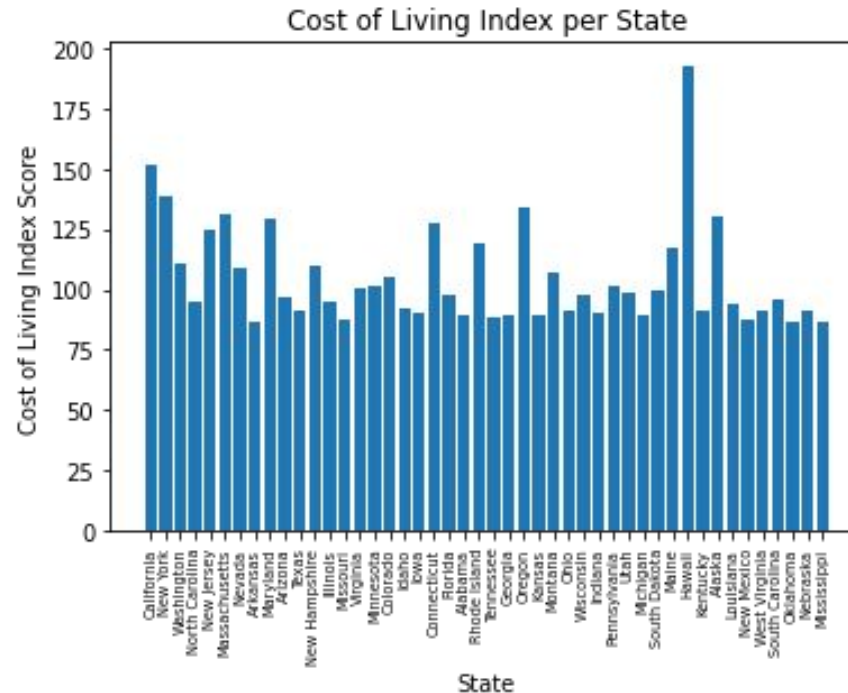| State	Annual Median Wage
California	127310
New York	118310
Washington	117260
New Jersey	113050
Arizona	111900

Notes: No data for US states Delaware, North Dakota, Vermont, and Wyoming.
Source: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics.

John's Analysis - Cost of Living Index

Graph below shows cost of living per state. Calculation is based on the amount of money needed to sustain a certain standard of living based on the costs of housing, food, healthcare, and more.

John's Analysis - Salary vs Cost of Living per State

Based on the average salaries per state for Data Scientist jobs and the cost of living index per state, the scatter plot below compares states having salaries vs the cost of living. Points above the linear regression lines are the states that would be best to apply for Data Scientist positions.
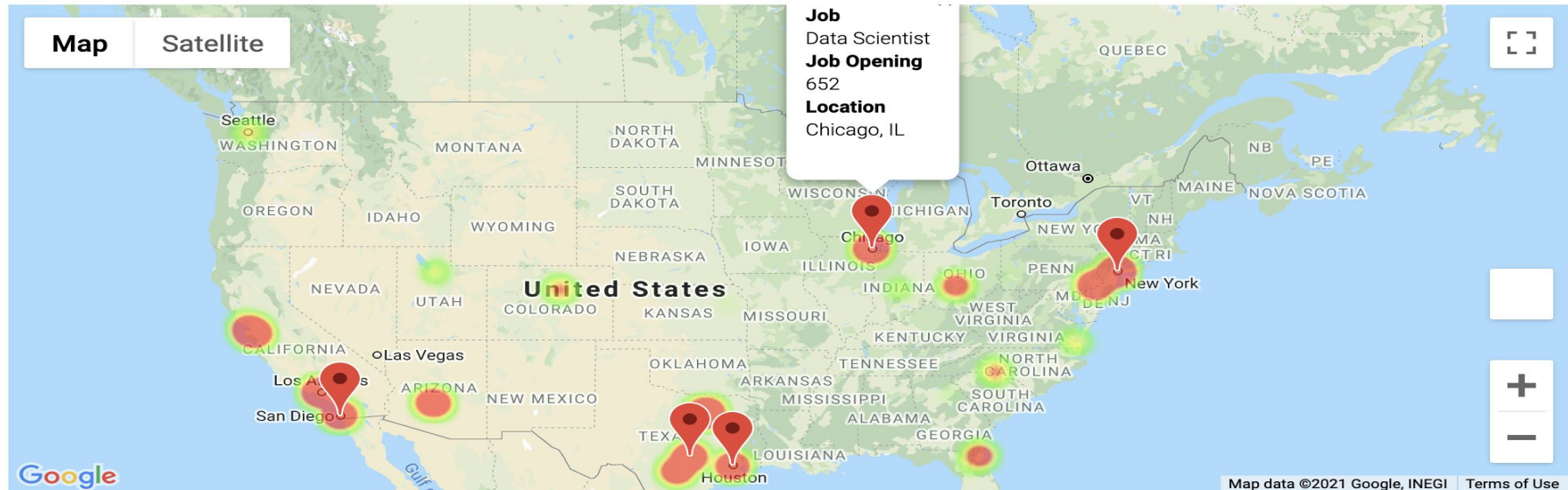
Chloe's Analysis

My exploration focused to find out and visualize which industries are currently looking for data-related job in the United States, which companies are there, and which states are looking for the most by using 'glassdoor' information.

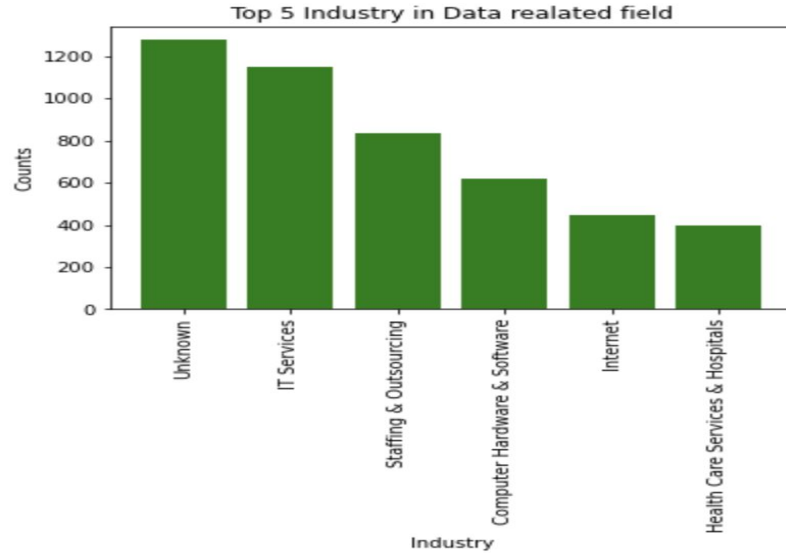Q1. Which states are looking for the most data-related job?

A1. Cleaning up data from glassdoor and by using geopy, retrieved latitude and longitude for each state.
Layered heatmap and marked only Top 5 state that has largest job openings.
1. New York, NY (800) 2. Chicago, IL (652) 3. Austin, TX (625) 4. San Diego, CA (561) 5. Houston, TX (490)
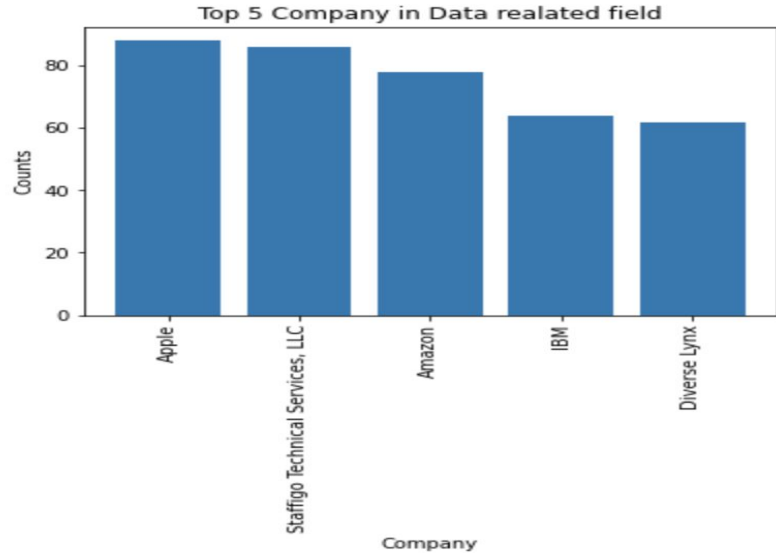
Chloe's Analysis

Top 5 Industry in Data realated field

Top 5 Company in Data realated field

Top 5 Industry in Data related job based on Job openings from Glassdoor.

1. IT Services (13.3%)
2. Staffing & Outsourcing (9.6%)
3. Computer Hardware & Software (7.1%)
4. Internet (5.2%)
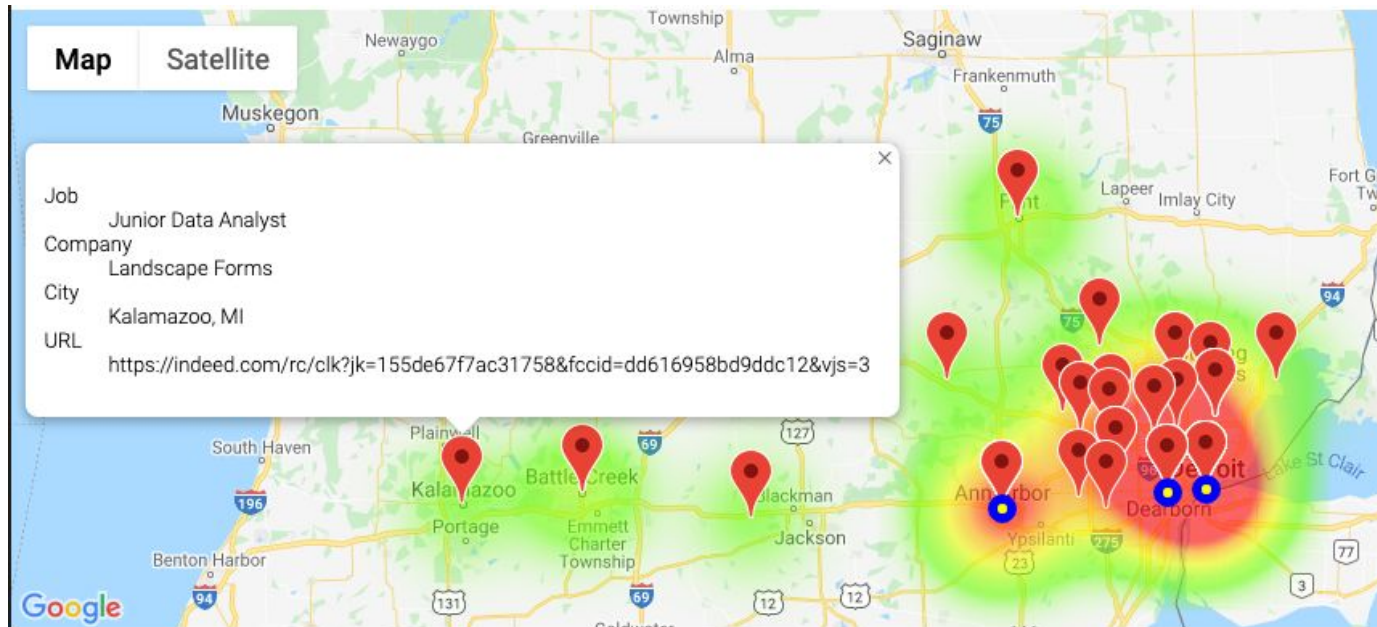5. Health Care Services & Hospitals (4.6%)

Top 5 Company in Data related job based on Job openings from Glassdoor.

1. Apple (1.0%)
2. Staffigo Technical Services, LLC (1.0%)
3. Amazon (0.9%)
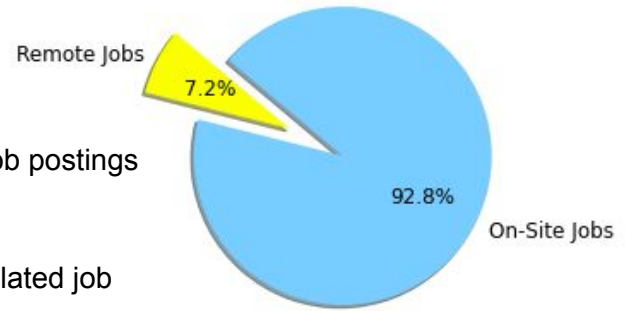4. IBM (0.7%)
5. Diverse Lynx (0.7%)

Amanda's Analysis

If we were to visualize the **hotspots for data-related jobs** on a map of **Michigan**, where would those geographical hotspots be? Within that map, can we **pinpoint the job locations and company**? What are the **top three locations** with the most data-related jobs posted?

- geolocator = GoogleV3(g_key) to obtain coordinates
- gmaps to obtain a map of Michigan, with a heatmap layer, marker layer (job details), and symbol layer
- The number of jobs from the top 3 cities by job count (**Detroit (20), Ann Arbor (10), and Dearborn (7)) account for 51%** of the data-related jobs in Michigan
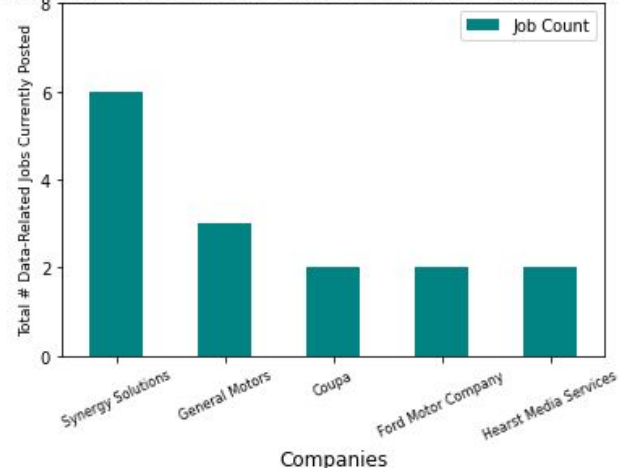
Amanda's Analysis

- Michigan Analysis (continued):
  - Q: What are the **top five *cities*** in Michigan with the most data-related job postings currently?
    - **Account for 63%** of the overall data-related jobs in Michigan
  - Q: What are the **top five *companies*** in Michigan with the most data-related job postings currently?
    - **Account for 21%** of the overall data-related jobs in Michigan
- U.S. dataset (same Indeed web scraping tool - "**Data Analyst**" and "**Remote**" keywords in job title)
  - Q: What percentage of the Data Analyst jobs posted in the U.S. right now are ***remote***?

Remote Jobs 7.2%

92.8% On-Site Jobs

Current Number of Data-related Job Postings by City in Michigan

Current Number of Data-related Job Postings by Company in Michigan

Questions or Comments?