Setting Yourself Up For a Career in Data Science

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Abstract

In this project, I have attempted to take the role of a college advisor. My goal is to help students prepare for a career in data science by giving them goals and skills to focus on. To do this, I analyzed job postings within data science to find what employers are looking for. It was found that there are a few top skills to focus on to become a data scientist, and that most of these positions are filled with holders of a Master's Degree with a Mathematics/Engineering background. This information will be useful to aspiring data scientists looking for their way into the field.

Introduction

The field of data science is ever-evolving as the way businesses and industries collect and use data. As the field continues to grow, it is equally important for students learning these topics to grow with it. It is crucial for students that they are taught the skills needed for the world of big data that we live in.

Methodology

- Analyzed datasets filled with data science job postings across the U.S, which included data such as salary, location, and required skills
- Used Pandas and NumPy for data analysis of these datasets
- Created visualizations using Seaborn, Matplotlib, Geopandas, and Bokeh

References

Job Posting Datasets
- Chua Chin Hon, WEB SCRAPING JOB POSTINGS, (2019), GitHub repository
- 10000 Data Scientist Job Postings from the USA
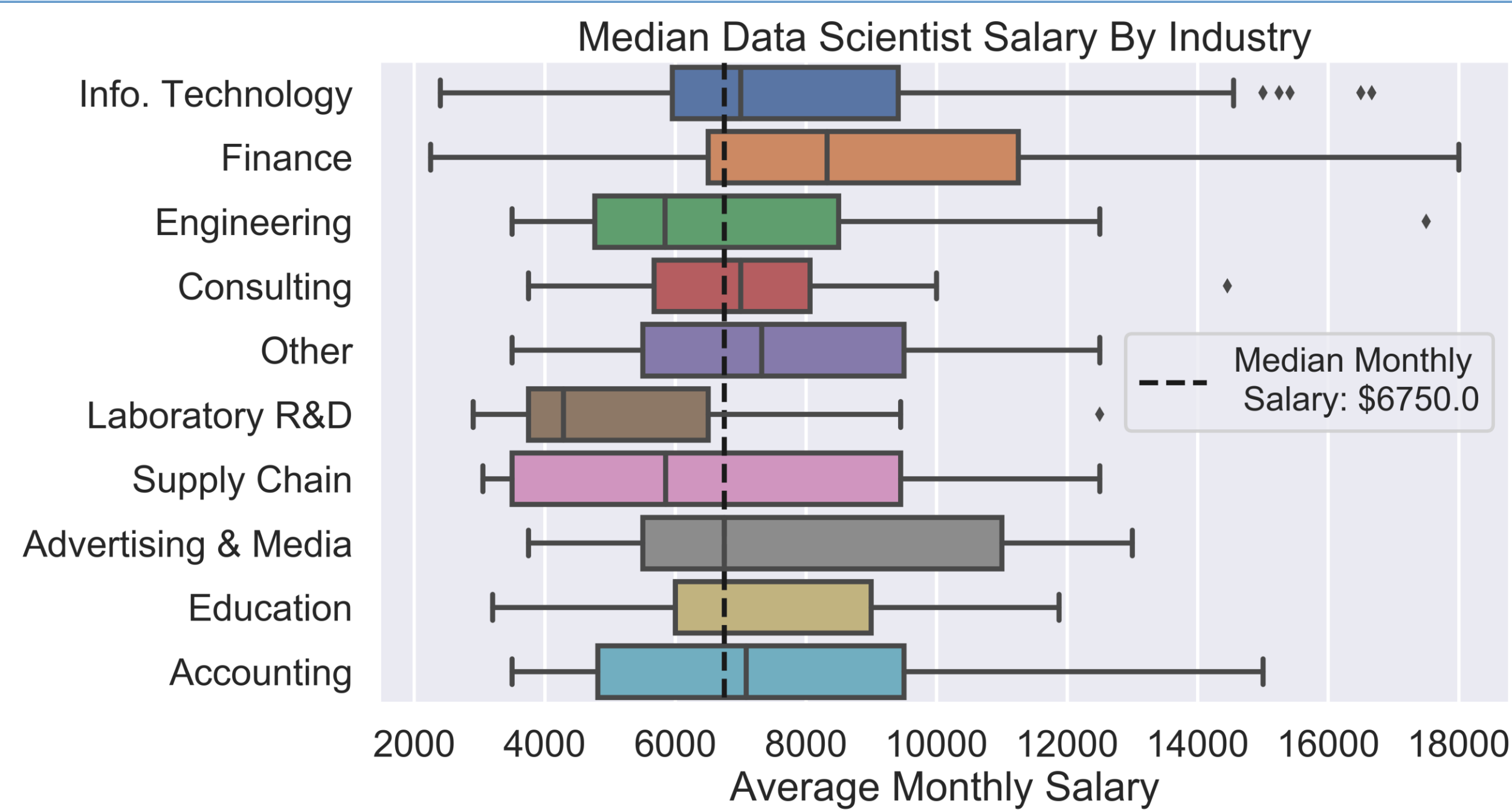- Indeed Dataset – Data Scientist/Analyst/Engineer
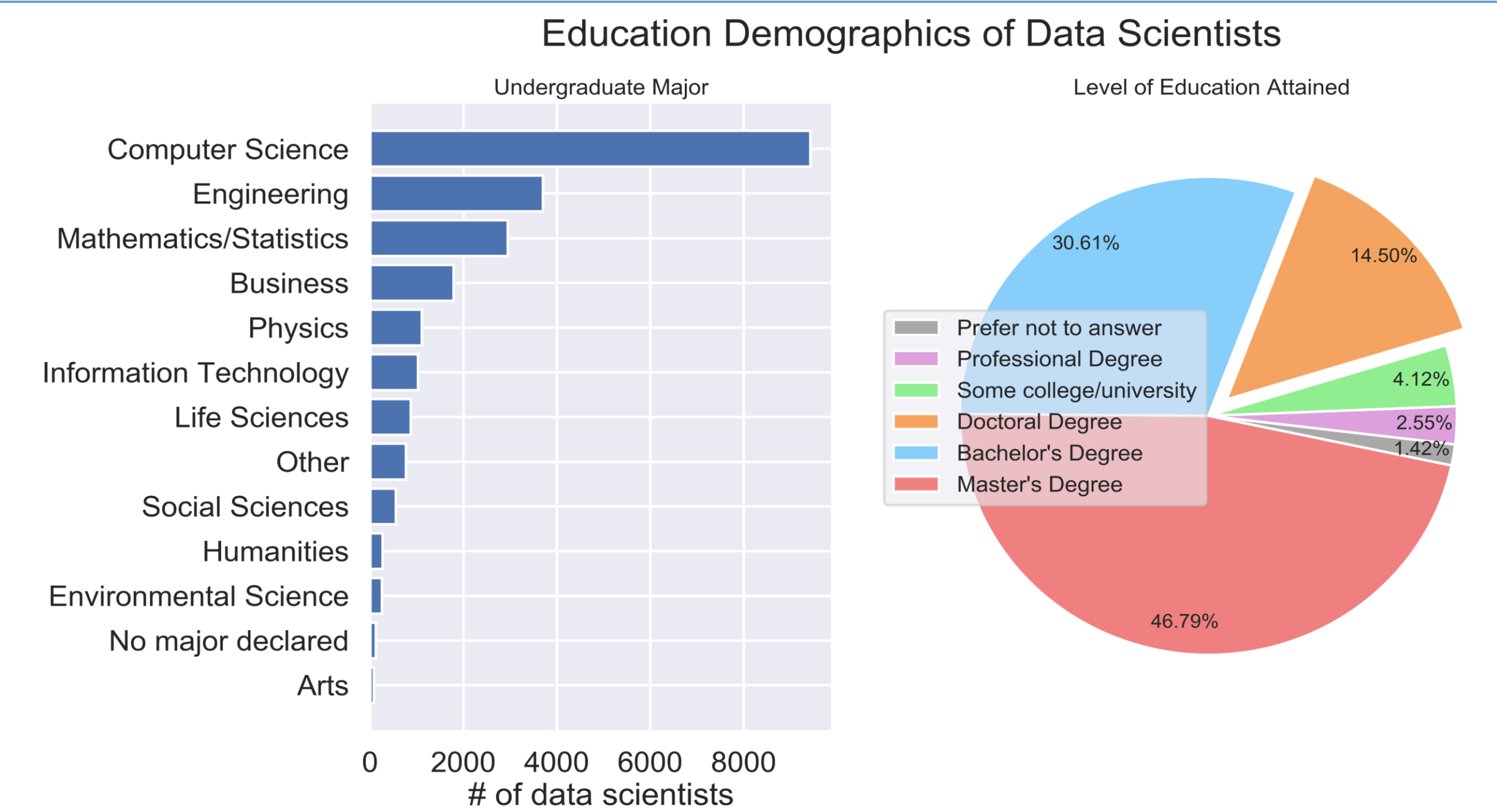
Data Science Survey Data
- 2018 Kaggle ML & DS Survey

Articles
- Chua Chin Hon, "10 charts to guide your search for a data science job…", Medium, March 19, 2020, <link>

Results

Median Data Scientist Salary By Industry

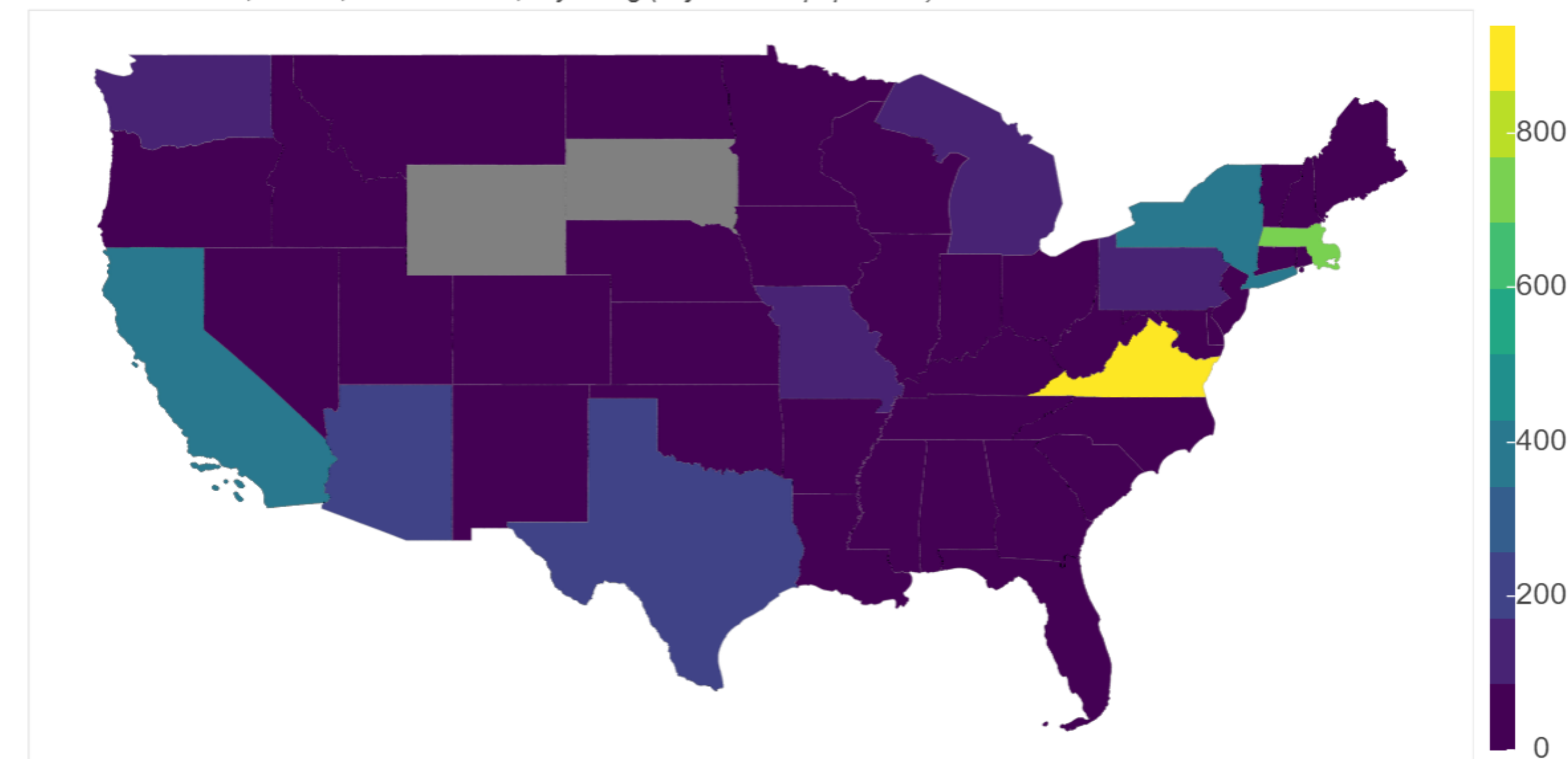Education Demographics of Data Scientists

- Typical salary in data science ranges from 5000 to 8000 a month
- Best field to utilize data science skills is the finance industry
- Being involved in laboratory research may limit your salary possibilities

- Majors that align with mathematics and engineering seem to be the most popular among data scientists
- Almost half of data scientists hold Master's Degrees

Data Science Job Openings

No data for Hawaii, Alaska, South Dakota, Wyoming (adjusted for population)

Top 10 Skills Required for Data Science

- Data science jobs tend to be popular in states with bigger populations (California, Texas, New York, etc.)
- The East Coast also has a relatively higher amount of jobs in data science, especially Virginia and Massachusetts

- Python and SQL are the 2 most desired skills in data science, with over 50% of jobs requiring one or both of these skills
- 4 of these "Skills" are programming languages, 2 are methods used in data science, and the other 4 are programs used in analytics

Conclusions

The findings from this project can be used by both students looking to begin a career in data science as well as course administrators looking for ways to prepare their students and make sure their program is up to date. Further exploration could be done in many areas such as: exploring some of the best ways to learn these skills (in an academic setting, through independent learning, etc.), or trying to predict some of the skills needed by employers in the future of data science.