Analyzing the Earnings of Data Practitioners: Role Descriptors and Geographic Variations

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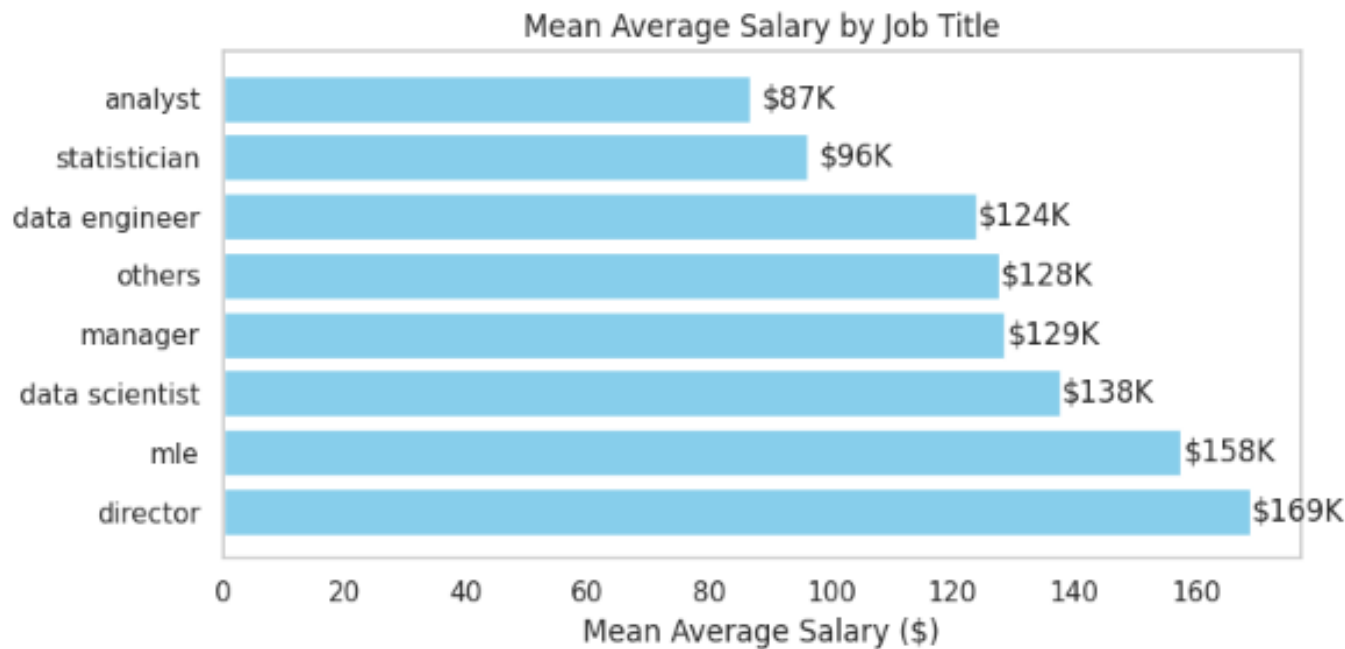
Mean Average Salary by Job Title

Figure 1: This visualization aims to provide insights into the salary landscape across different data science roles, highlighting potential differences in compensation that reflect the varying levels of expertise, responsibilities, and demand associated with each job title. The visualization provides insights into which data practitioner roles tend to offer higher average salaries, potentially reflecting the demand, required expertise, or rarity of skills associated with those positions.

The chart effectively conveys that within this dataset, director-level positions have the highest mean average salary, followed by machine learning engineers (mle), data scientists, managers, and so on, with analysts having the lowest mean average salary in the group displayed. The emphasis on the director's role salary could suggest a talking point or a particular interest in the upper management salaries within the industry.
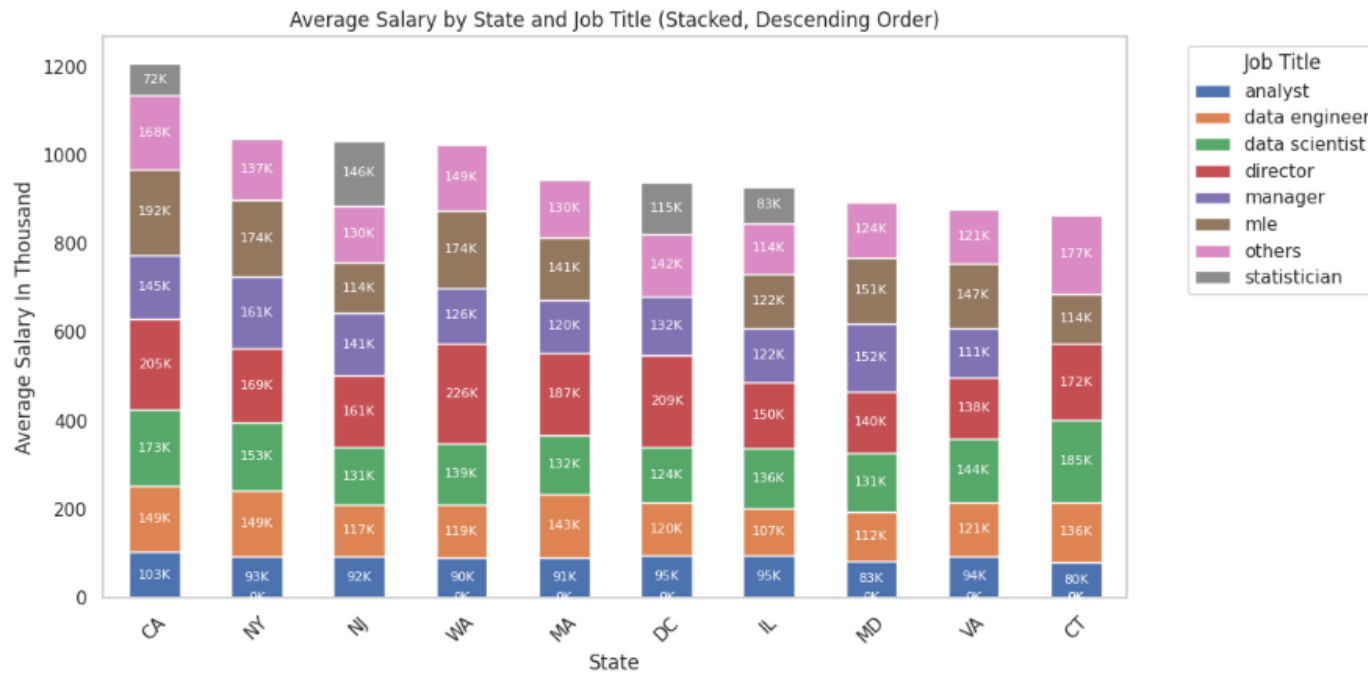
Figure 2: The chart is a comprehensive visualization of the first 10 states with the highest data practitioner salary that conveys not just how average salaries compare across states, but also the distribution of these salaries across different job titles within the data science or tech industry.

The use of stacked bars makes it possible to understand the contribution of each job title to the overall average salary in each location. From this visualization, one can infer which job titles generally pay more or less within the states shown, and how each job contributes to the total average salary in each state. This is valuable for job seekers, employers, and analysts interested in salary trends across locations and positions within the industry.
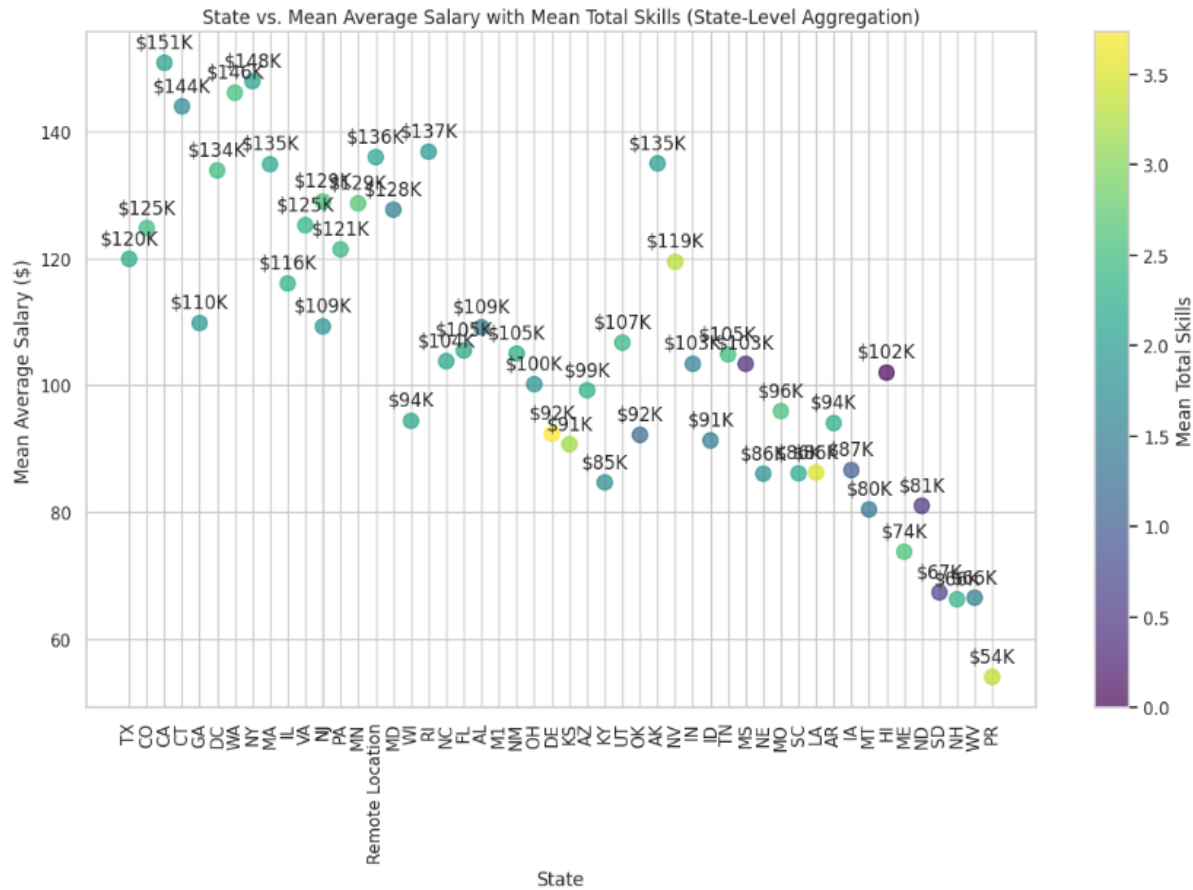
Figure 3: In the updated scatter plot, each state is represented by a point whose position indicates the mean average salary for data practitioner roles within that state. The color of each point reflects the mean number of skills requested in job postings for that state, providing a visual representation of skill demand. Additionally, the mean average salary values are annotated on each point, making it easier to directly compare the salary levels across states.

Figure 3 offers a multifaceted view of the data practitioner job market across different states of the United States, highlighting not just how mean salaries vary geographically but also how the complexity or skill demands of these positions differ. It can serve as a tool for understanding which states offer higher salaries on average and whether there's a correlation between salary levels and the technical skills required in those states. However, the number of skill sets seems not to determine the mean salary of data practitioners, indicative

of the +0.12 correlation between average salary and total skills. However, it's important to note that while visualization suggests trends, it does not establish causality, and the true relationship between skills and salaries is defined by the correlation factor. Delaware with an average four (4) technical skill set maintains a mean average salary of ninety-one thousand dollars ($91,000) while California has a mean salary of one hundred and fifty-one thousand dollars ($151,000). This suggests that there are factors other than the number of skills that determine the amount of salary of a data practitioner across the states of the USA.

Reference:

1. Glassdoor: https://www.glassdoor.com/Job/united-states-data-scientist-jobs-SRCH_IL.0,13_IN1_KO14,28.htm
2. Data scraping tool: https://www.octoparse.com/