DATA608 Knowledge and Visual Analytics (001)
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10/23/23

Executive Summary

Topic: Variation in Data Practitioner Salary by Role and State

Target Questions:

1.   What variation in average salary for Data Practitioner jobs exists by role and state

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Context

Roles and sub-fields within data science are rapidly expanding with notable differences in pay and responsibility. Using the Bureau of Labor Statistics, Ziprecruiter, and Salary.com for average salaries by state and role combined with Wisevoter's Cost of Living Index, the goal is to understand the variance between salaries across role and state.
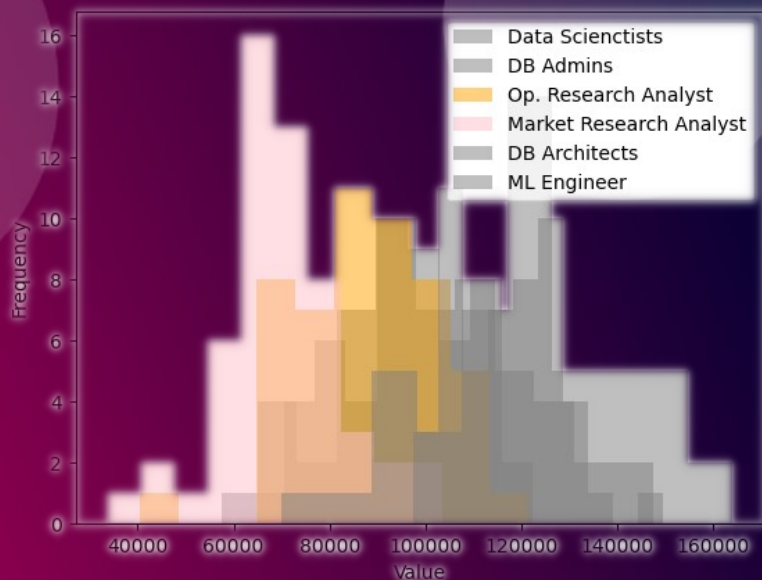
Story

Salaries across the board range from $40,000 - $160,000+ with little to only moderate at best correlation between salaries and cost of living by role. Viewing distribution and cost of living explains variations.
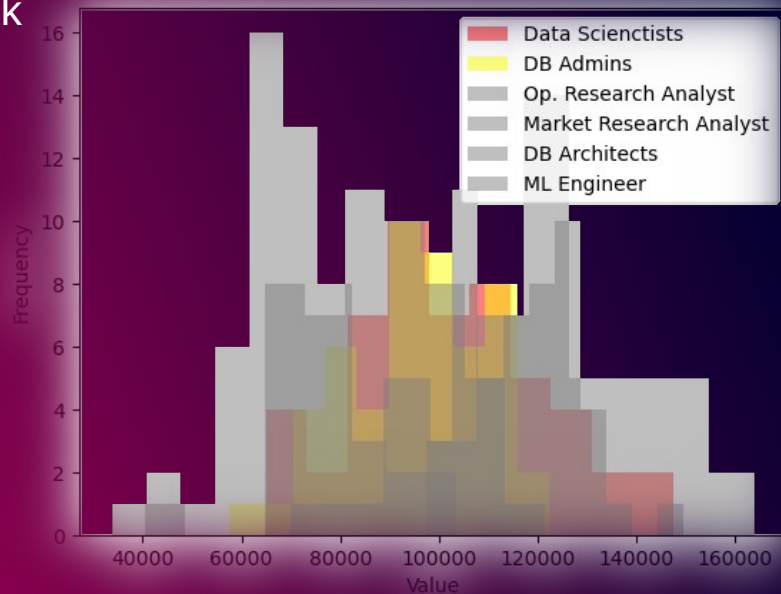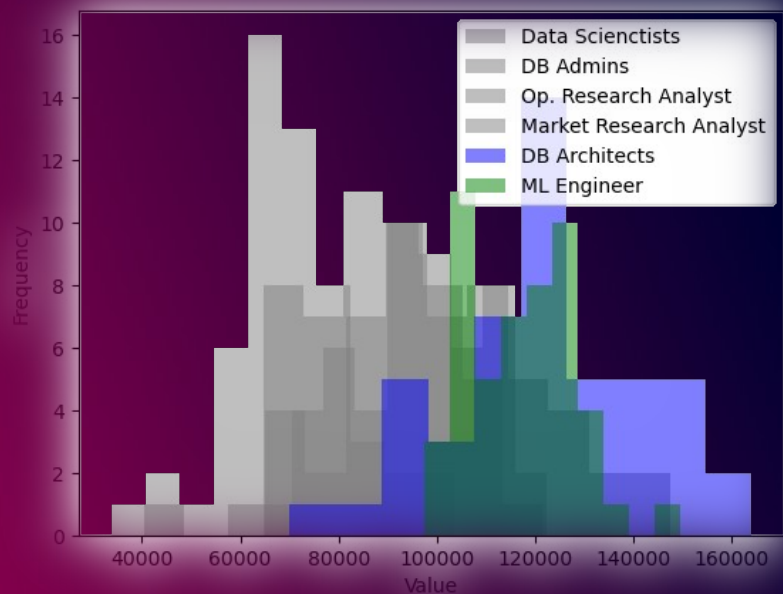
Cost of Living Has Moderate to Weak Impact

Correlation Heatmap

	Cost_of_Living	Salary_Mean
Data Scientists-Cost_of_Living	1.00	0.44
Data Scientists-Salary_Mean	0.44	1.00
Database Administrators-Cost_of_Living	1.00	0.49
Database Administrators-Salary_Mean	0.49	1.00
Database Architects-Cost_of_Living	1.00	0.32
Database Architects-Salary_Mean	0.32	1.00
Machine Learning Engineer-Cost_of_Living	1.00	0.48
Machine Learning Engineer-Salary_Mean	0.48	1.00
Market Research Analysts and Marketing Specialists-Cost_of_Living	1.00	0.41
Market Research Analysts and Marketing Specialists-Salary_Mean	0.41	1.00
Operations Research Analysts-Cost_of_Living	1.00	0.37
Operations Research Analysts-Salary_Mean	0.37	1.00

Business Analysts Cover the Rear

Scientists and Admins Center the Pack

Architects and Engineers Lead

West and NE Lead Average Salary

Average Salary

- 120k
- 115k
- 110k
- 105k
- 100k
- 95k
- 90k
- 85k
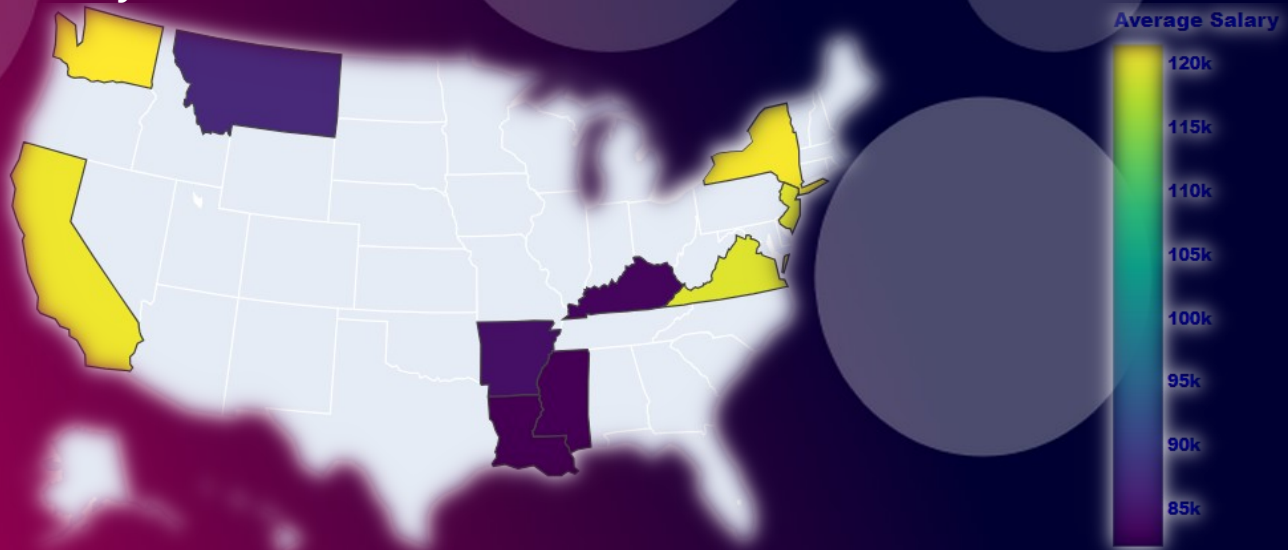
West and NE Lead Cost of Living

Cost of Living Index

- 180
- 160
- 140
- 120
- 100
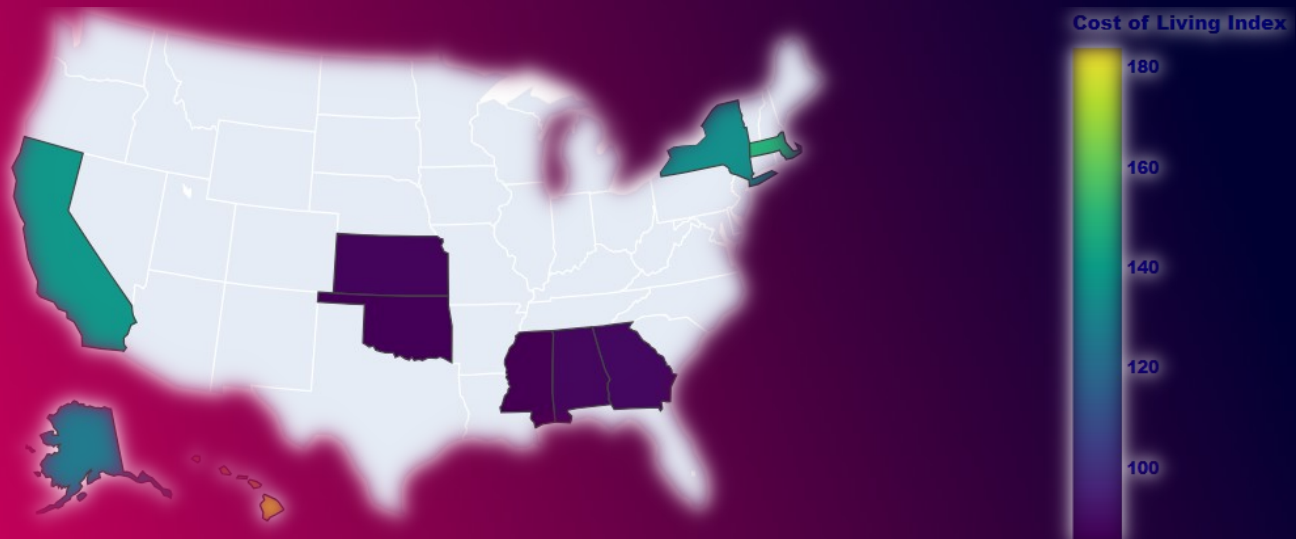
References/Code Appendix:

"Bureau of Labor Statistics." *Bureau of Labor Statistics*, Oct. 2023, https://www.bls.gov/.

"Cost of Living by State 2023 - Wisevoter." *Wisevoter*, 2023, https://wisevoter.com/state-rankings/cost-of-living-by-state/#cost-of-living-index.

"Data Architect Salary | Salary.Com." *Salary.Com*, Oct. 2023, https://www.salary.com/research/salary/listing/data-architect-salary.

"What Is Machine Learning Engineer Salary by State?" *ZipRecruiter*, Oct. 2023, https://www.ziprecruiter.com/Salaries/What-Is-the-Average-Machine-Learning-Engineer-Salary-by-State.
https://github.com/CUNY-SPS-Data-Science-Program/your-bio-d-ev-craig/blob/main/Major%20Assignments/Story%204/Story_4_DCraig.ipynb