Job Market Analysis Report

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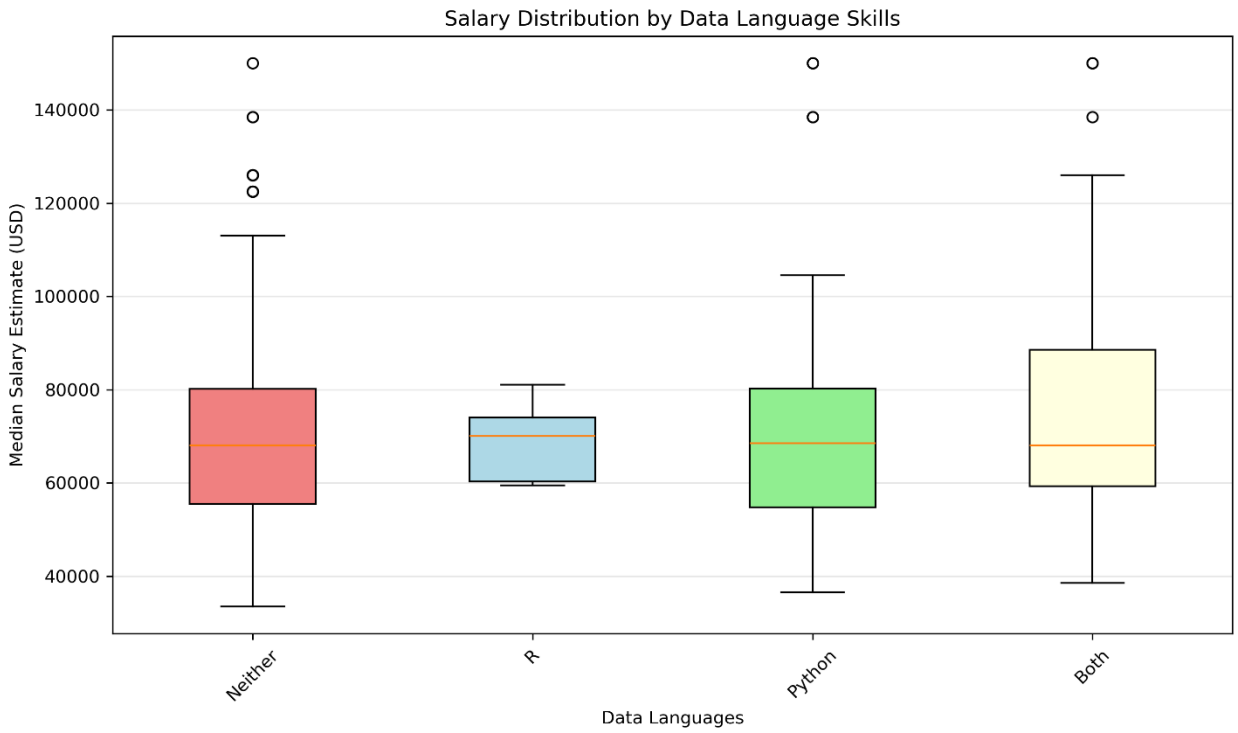
Introduction

In this exercise, you'll harness the power of Large Language Models (LLMs) directly inside Google Sheets to automatically extract key details from hundreds of data-analysis job postings—just as we do at Graph Courses to shape our curriculum. Once you've compiled these insights, you'll feed them into an AI-driven analytics platform (Julius or Cursor, whichever you used in our last workshop) to build compelling visualizations and craft a clear, concise report. Let's get started!

Scatter Plot: Experience vs. Salary

The scatter plot shows the relationship between minimum years of experience and median salary estimates, with the trend line indicating that more experienced candidates tend to command higher salaries. Interestingly, there's a very weak positive correlation (r = 0.037), suggesting that years of experience alone doesn't strongly predict salary in this dataset. The spread of points shows considerable variation at each experience level, suggesting that other factors also influence compensation.

Box Plot: Salary by Data Language Skills



Programming Language Impact

The box plot reveals salary distributions across different data language skills:

- Positions requiring only R programming skills tend to offer the highest median salaries [Mean=$69062, **Median=$70,000,** Count=8]
- Positions requiring both R and Python skills tend to offer the highest average salaries [**Mean=$76,017,** Median=$68000, Count=59]
- Python-only positions show a wider salary range compared to R-only positions [Mean=$72713, Median=$68500, Count=47]
- Positions requiring neither language show the lowest median salaries [Neither: Mean=$70327, Median=$68000, Count=188]

Key Takeaways

- Experience is positively correlated with salary, but with significant variation
- Technical skills in both R and Python are highly valued in the job market because Jobs requiring **both** R and Python skills have the highest mean salary ($76,017)

- Python skills alone may offer more diverse opportunities
- Python-only positions show slightly higher mean salaries ($72,713) compared to R-only ($69,062)
- Positions requiring neither language have the largest sample size (188 jobs) with a mean salary of $70,327
- The choice of programming languages can significantly impact salary outcomes
- Despite different means, the median salaries are quite similar across groups ($68,000-$70,000)

Reflections

Prior experiences with R Studio and Visual Studio Code were helpful in completing this assignment. Looking forward to leveraging the inherent capabilities of Cursor for automated data analysis assignments in the workplace.