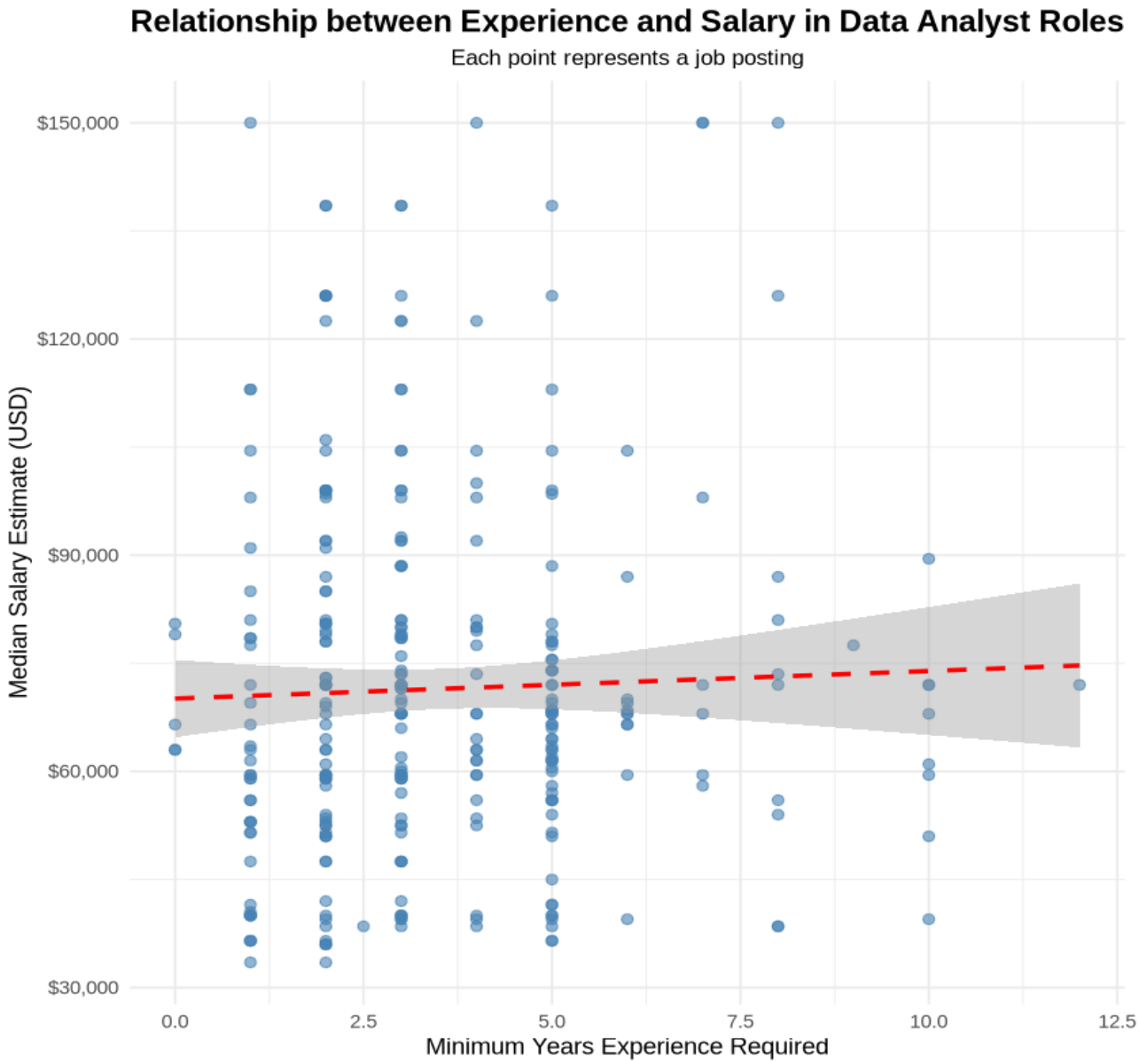
WORKSHOP 3 | Analyzing Job Market Data with LLMs in Sheets and AI Reporting Agents

Name: Eric Ebenezer Boham || 25th May 2025.

1. Brief description of data and the project's aim

This analysis aims to examines a dataset of 400 data analyst job postings (Source: Glassdoor, June 2020), focusing on the relationship between experience requirements, programming language skills, and salary expectations. The dataset provides insights into the market trends for data analyst positions across various industries and locations in 2020.

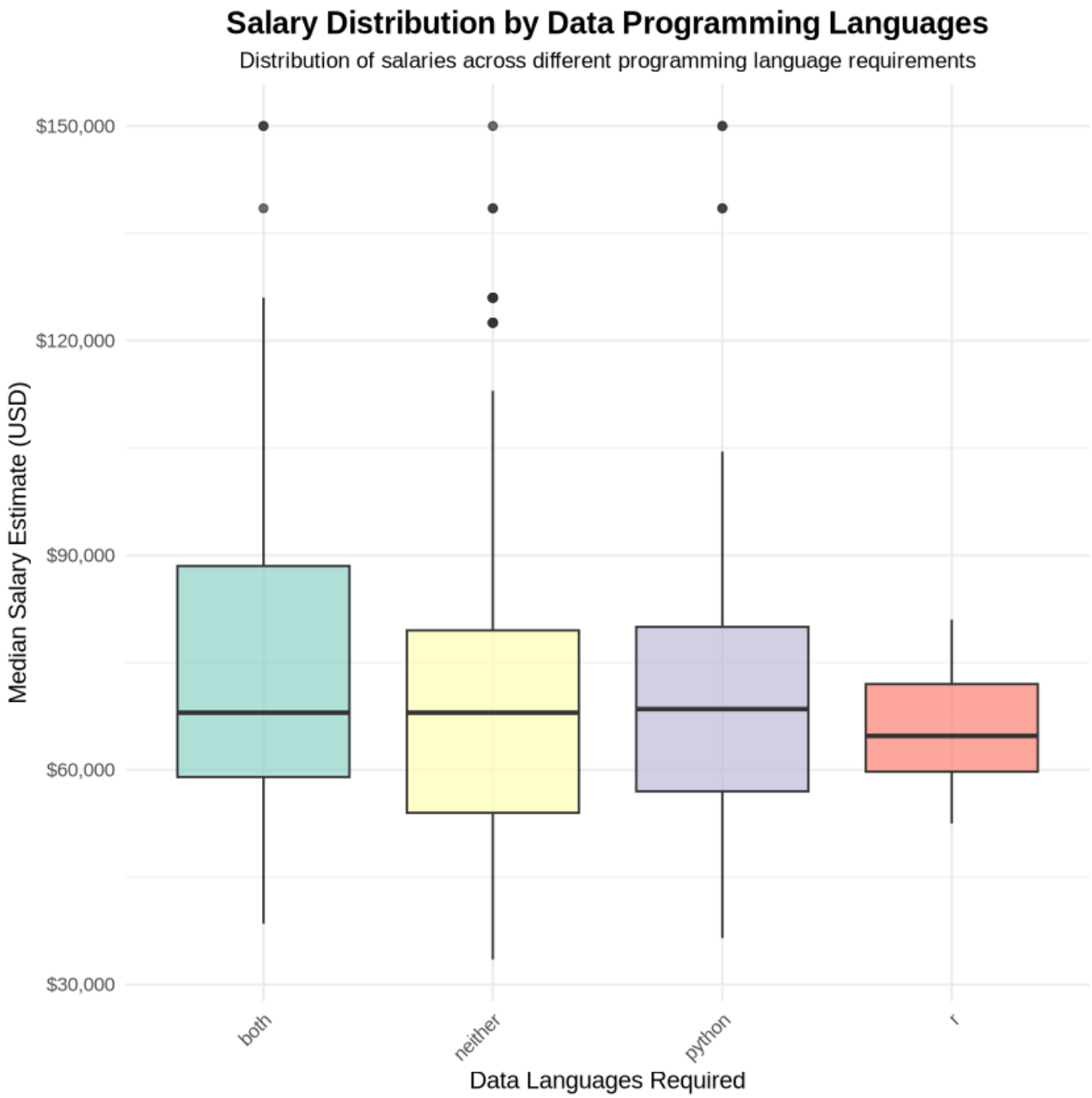
2. Analysis of "Years of Experience"



Interpretation: The scatter plot reveals a surprisingly weak relationship between minimum years of experience required and median salary estimates, with a correlation coefficient of only 0.033. This suggests that experience requirements alone are not a strong predictor of salary in data analyst roles. The data points are widely scattered, indicating that other factors such as

industry, location, company size, or specific technical skills may play more significant roles in determining compensation levels.

3. Analysis of "Programming Language Requirements"



Interpretation: The box plot analysis shows interesting patterns in salary distribution across different programming language requirements:

Both (Python & R): Highest average salary at $75,331, suggesting that versatility in multiple programming languages commands a premium

Python: Second highest average at $72,956, reflecting the high demand for Python skills in data analysis

Neither: Average salary of $69,997, indicating that many data analyst roles may focus more on business analysis and visualization tools

R only: Lowest average at $66,650, though this category has the smallest sample size (10 positions)

The analysis suggests that candidates proficient in both Python and R tend to command the highest salaries, while Python-only skills also provide competitive compensation in the data analyst job market.

4. **Short Reflection:**

Following the course and the workshop instructions was quite easy, especially following the prompts that had been given. I just wondered if I had to create them on my own; for instance an appscript code for a function, if I would be able to do so.

However, I learnt that AI tools can be used through APIs on other platforms for some specific tasks. I think this is incredibly useful for a student researcher like me.