

Topic- Analyzing Job Market Data with LLMs in Sheets and AI Reporting Agents

Name- Idris Yusuf Abubakar

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This project utilizes a large language model (LLM) integrated via API within Google Sheets to extract targeted information from hundreds of data analysis job postings. The extracted data is then analyzed using Julius, an AI-powered tool, to generate visualizations and a concise report that highlights key trends and insights.

Analysis of “Years of Experience” using scatter plots



- Very weak correlation ($R^2 = 0.000$) between experience and salary
- No statistically significant relationship ($p\text{-value} = 0.70$)
- Wide salary variation exists at all experience levels
- It suggests other factors beyond experience drive compensation

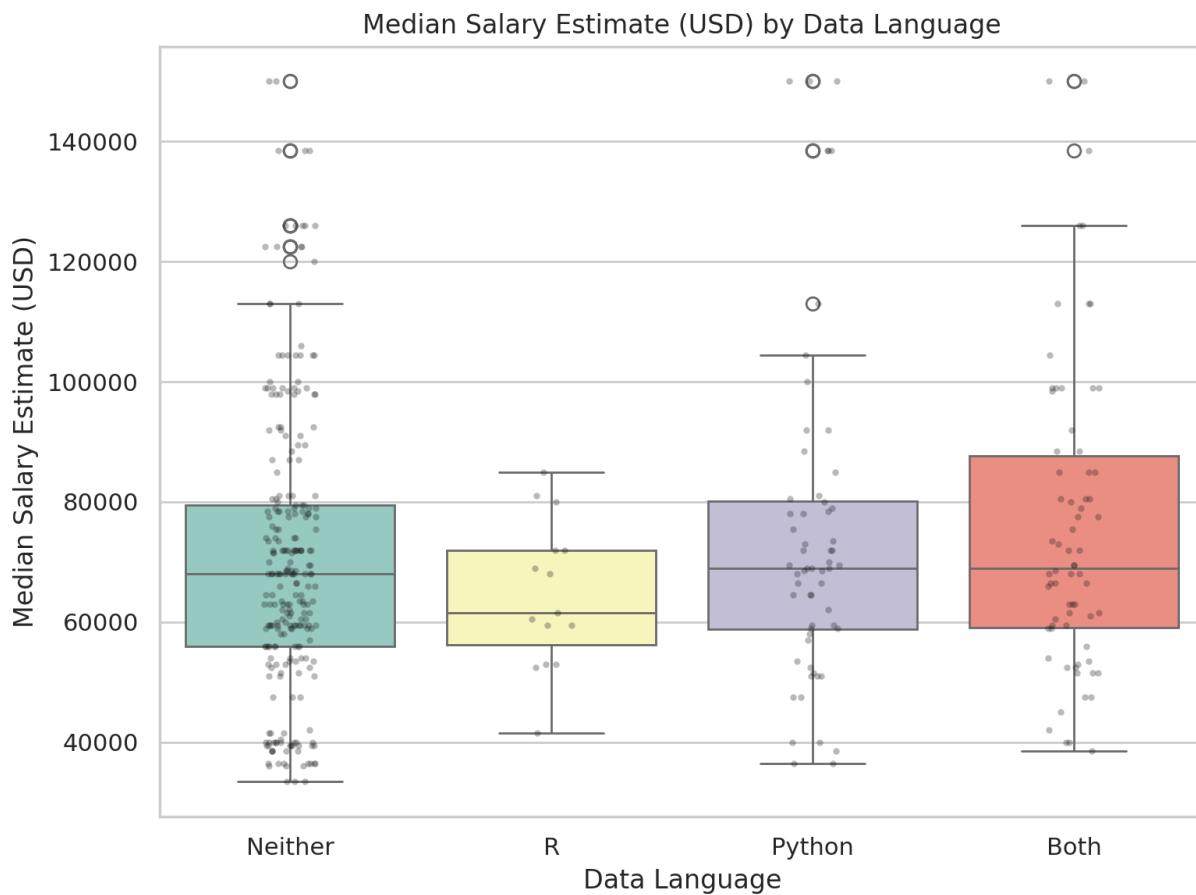
Simply put, the scatter shows wide salary dispersion across experience levels, with only a mild upward trend.

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Programming Language Analysis using Box plots



- "Both" (R + Python) roles show highest mean salary (\$75,671)
- "Python" roles follow closely (\$74,867)
- "Neither" roles are surprisingly competitive (\$70,433)
- "R" roles show lowest mean (\$64,533) but smallest variation
- All groups have substantial overlap in salary ranges
- Simply put, the box plot suggests postings mentioning Both languages tend to skew higher than single-language or Neither roles, though there's overlap.

Reflections:

- It is awesome to learn how specific information can be extracted from large collection of data using LLMs integrated via API within Google sheets.
- I am beginning to appreciate the power of LLM and AI tools for data review, processing, analysis and the creation of visualization. It was a great experience.

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- Everything went on well, particularly the availability of GRAPH instructors to guide.