

Title:Job Market Trend Analysis

Insights from LinkedIn Job Data

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Introduction to Job Market Analysis

- The job market is a dynamic ecosystem, constantly shaped by technological advancements, economic shifts, and evolving workforce expectations.
- Understanding these trends is crucial for job seekers, employers, and policymakers alike.

Analyzing Current Job Market Trends



Data Source and Cleaning

- This analysis utilizes a dataset of job postings extracted from LinkedIn.
- The dataset was obtained from <https://github.com/Mlawrence95/LinkedIn-Tech-Job-Data/blob/main/jobs.csv>.
- Missing Values: As noted in the Colab notebook, the dataset contains missing values across several columns.

RangeIndex: 8261 entries, 0 to 8260

Data columns (total 18 columns):

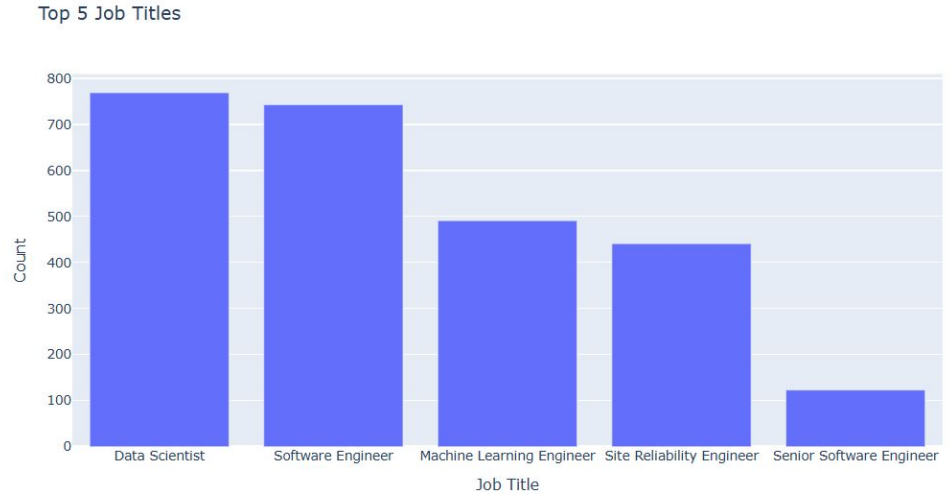
#	Column	Non-Null	Count	Dtype
0	Employment type	7768	non-null	object
1	Industries	7172	non-null	object
2	Job function	7172	non-null	object
3	Seniority level	7172	non-null	object
4	company	8261	non-null	object
5	company_id	7780	non-null	float64
6	context	7685	non-null	object
7	date	7626	non-null	object
8	description	7780	non-null	object
9	education	7527	non-null	object
10	location	8261	non-null	object
11	months_experience	5090	non-null	float64
12	post_id	8261	non-null	int64
13	post_url	8261	non-null	object
14	sal_high	2135	non-null	float64
15	sal_low	2135	non-null	float64
16	salary	2145	non-null	object
17	title	8261	non-null	object

- Numeric columns are imputed using the median, and categorical columns are imputed using the mode.
- Duplicates: Duplicate entries were identified and removed from the dataset to ensure data integrity.
- Standardizing education column
- Cleaning Salary to be able to use for calculations.



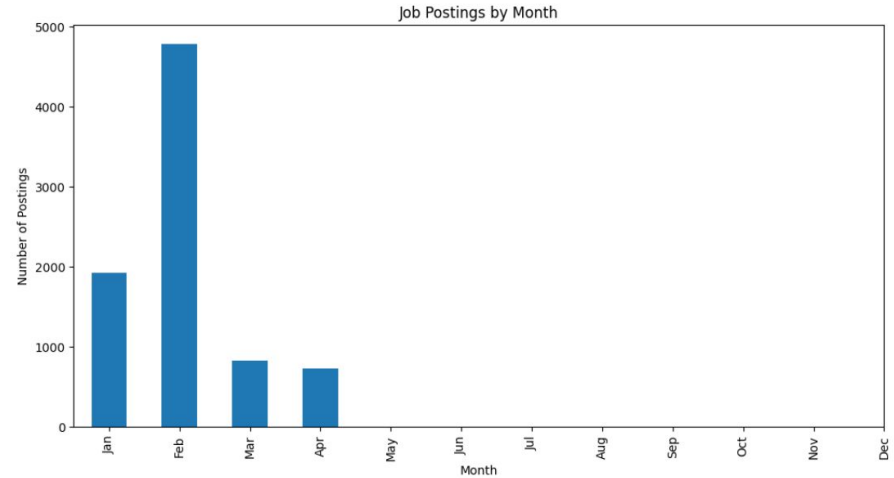
Most Popular Job Titles

- The visualization highlights that 'Data Scientist' is the most frequently advertised job role
- The high demand for data scientist shows the increased value of data analytics across multiple industry



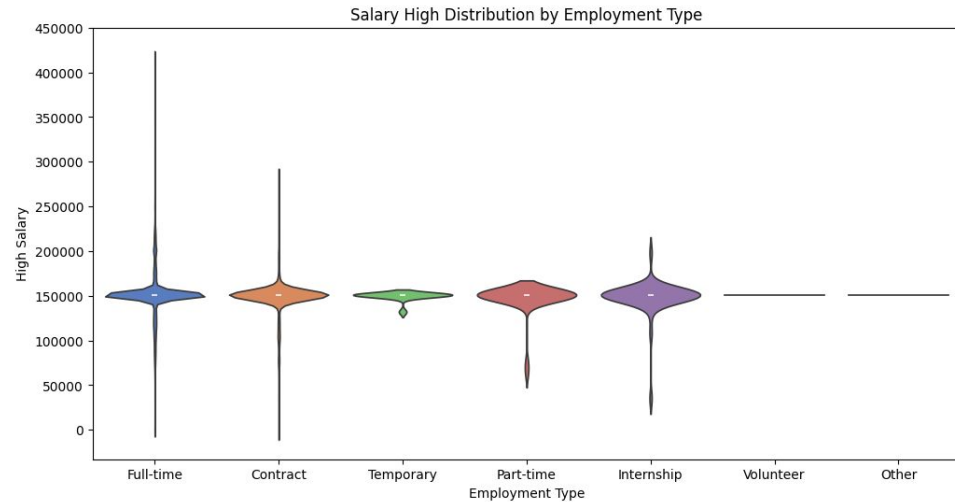
Job Posting Trends:Monthly Distribution

- The visualization clearly demonstrates the seasonal trends in job postings.
- The number of job postings increases in the month of august.
- Suggesting that there is usually an increase in job posting in August



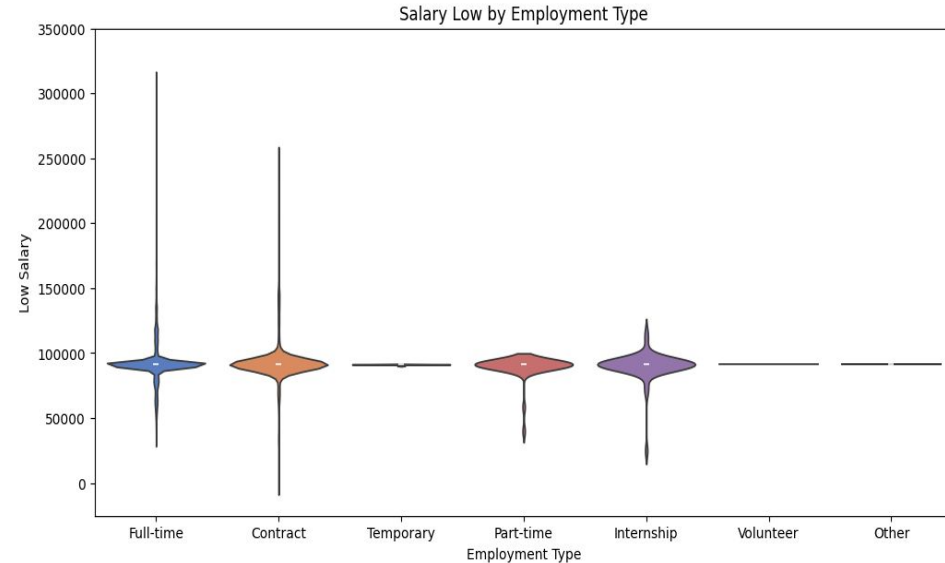
High Salary Distribution by Employment Type

- The full-time employment type exhibits the widest distribution, indicating diverse salary ranges dependent on industry and role.
- The internships offers competitive pay, in high-demand sectors.
- Median salaries for temporary and part-time roles is Lower, indicating these positions generally offer less compensation



Low Salary Distribution by Employment Type

- The Median low salary from the full-time jobs is generally, with salaries clustered, showing consistency in base pay for full-time roles.
- Some contract roles' low salaries approach zero, reflecting part-time contracts or unpaid trial periods
- Temporary, part-time has uniform low salaries, likely due to hourly rates



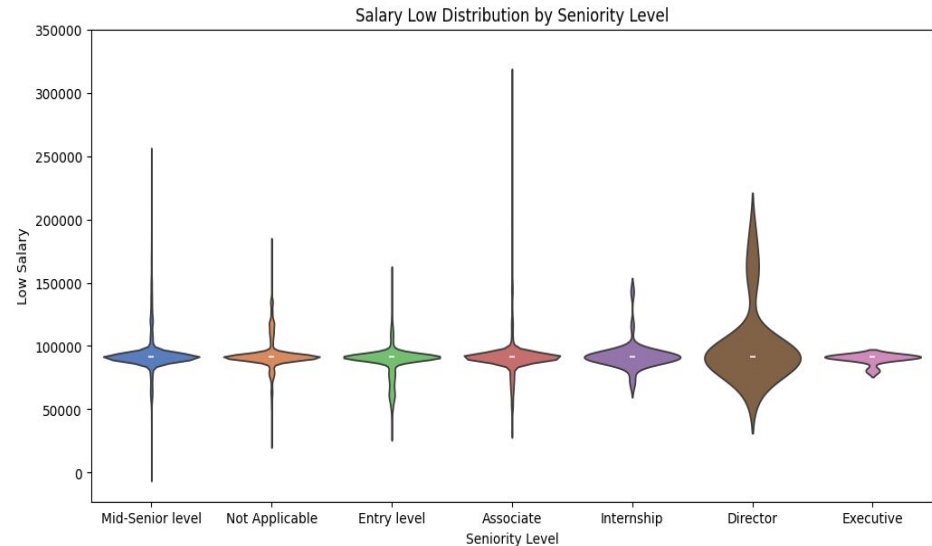
High Salary Distribution by Seniority Level

- Executives enjoy the highest median salary among all of the job postings, this exhibits that they generally earn more than other employees
- The high end director salaries can earn comparable amounts to executives
- The entry-level positions are more stable, showing a small gap between distribution



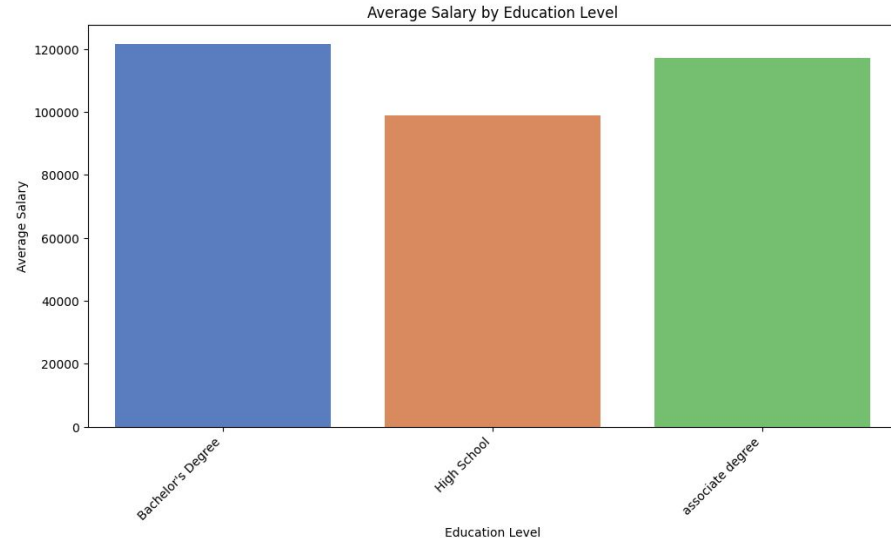
Low Salary Distribution by Seniority Level

- Similar to the previous insight, the salary distribution for executives is stable at the high end for the low salaries.
- Director level jobs show high variability
- Entry Level roles display a consistent salary between distributions, indicating a stable starting pay



Average Salary by Education Level

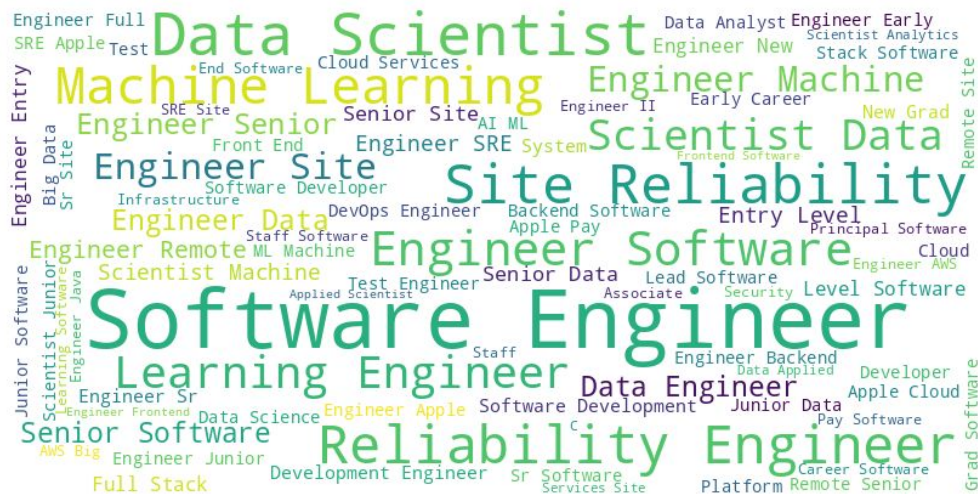
- The graph shows a positive correlation between education level and salary, with bachelor's degree holders earning the most.
- Associate degree holders earn nearly as much, suggesting high demand in certain fields.
- The salary gap highlights the value of post-secondary education.



[illegible]

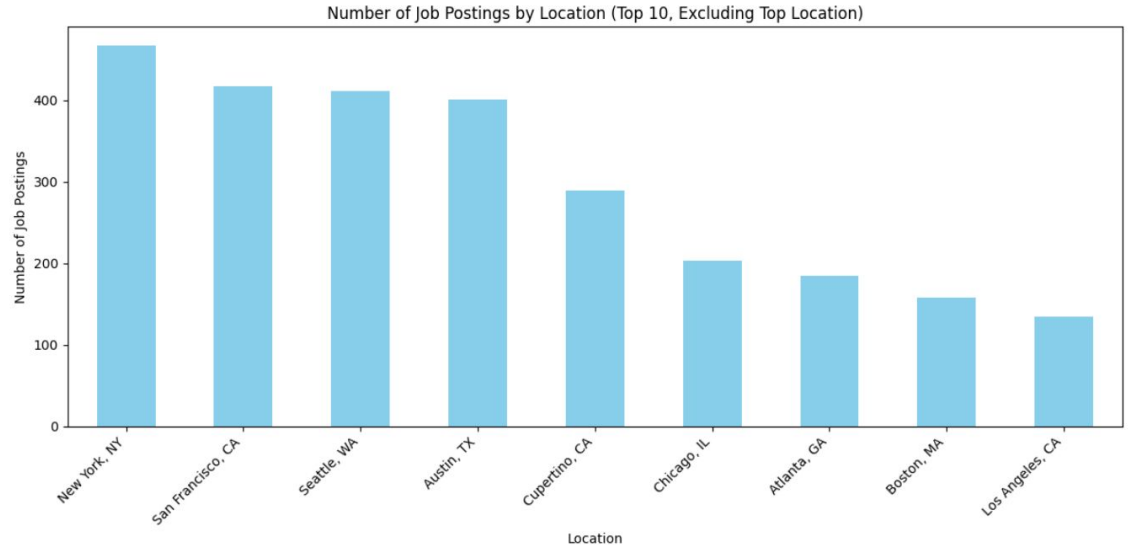
- The terms which are most popular in all of the job descriptions are team, experience and work

- Popular job titles include data science, analyst.



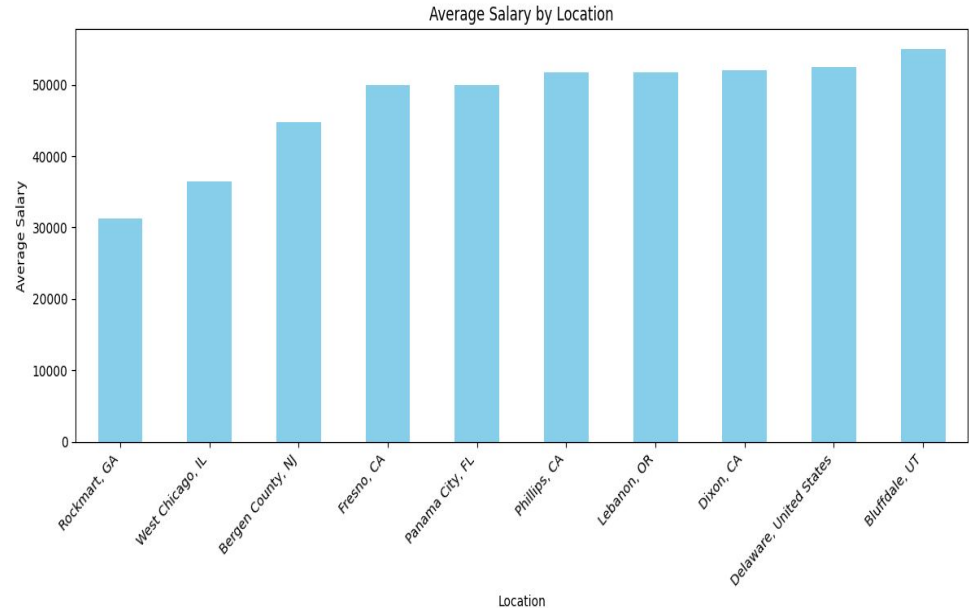
Job Postings by Location

- The visualisation provides the top ten job location postings.



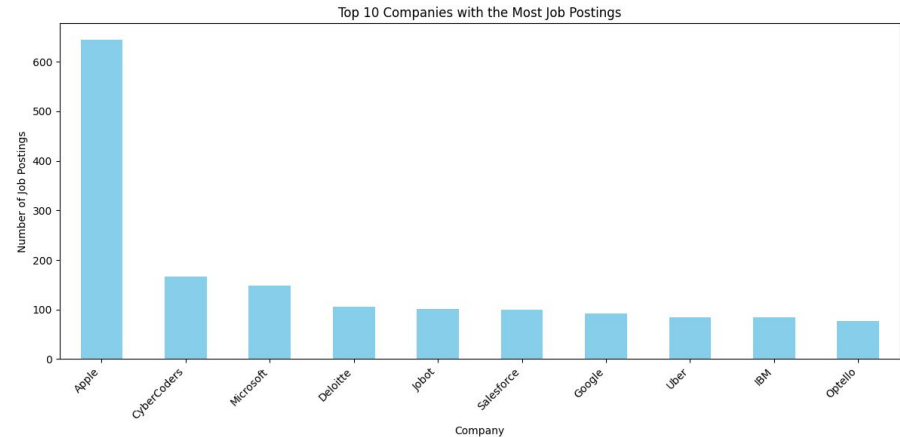
Average Salary by Location

- The graph shows average salaries by location, with Bluffdale, UT offering the highest and Rockmart, GA the lowest.
- Salary variations suggest the impact of local economies, job demand, and cost of living.



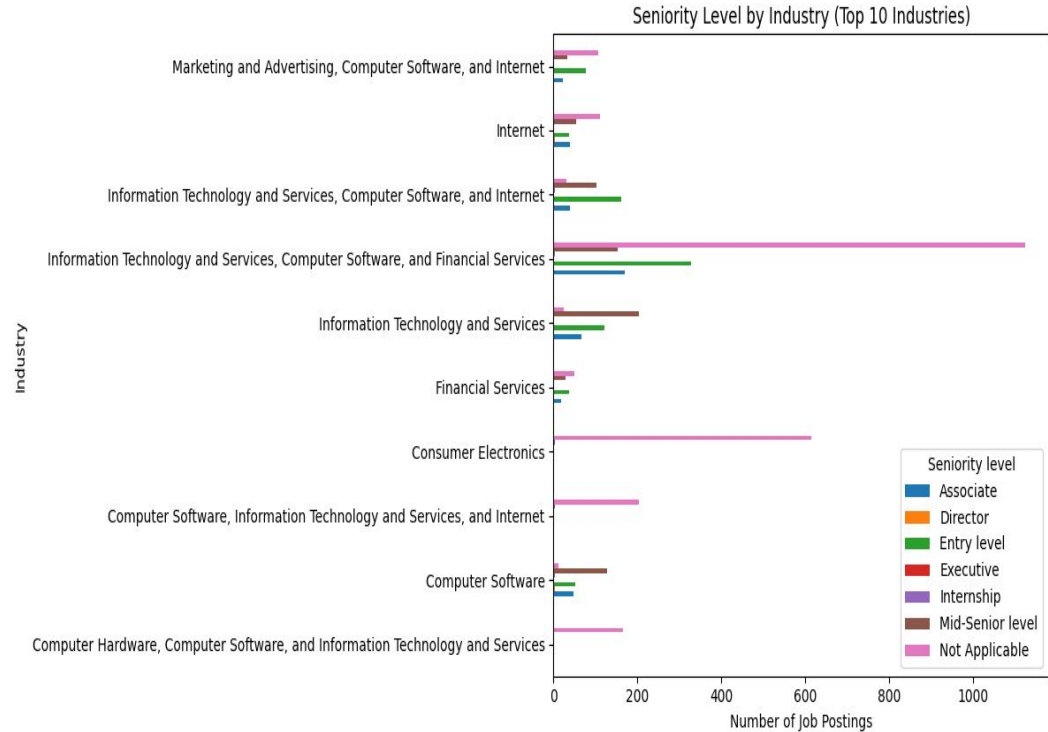
Top Companies with the Most Job Postings

- To further explore the job market, we will look into the leading companies in job creation and which industries are more prominent.
- With the visualised data, there is a list of companies showing hiring postings.



Seniority Level by Industry

- The visualisation of Seniority by Industries offers valuable insights"
- "By inspecting the chart, we can identify companies with various employees"



Summary of Key Findings

- Job Popularity: Data Scientist roles remain in high demand, reflecting the continued importance of data analysis across industries.
- Job Posting Trends: Job postings tend to increase towards the middle of the year, particularly in August, but are consistent across each day in a week
- Salary Distribution: Salary levels were found to vary significantly based on employment type and seniority, with executive positions showing stable, high compensation.
- Internships offer a varying range, and can be comparable to entry-level positions.
- Skills & Job Titles: Top skills for job opportunities consist of teamwork and collaboration
- Location-Based Analysis: High job postings tend to be in the major metropolitan cities