

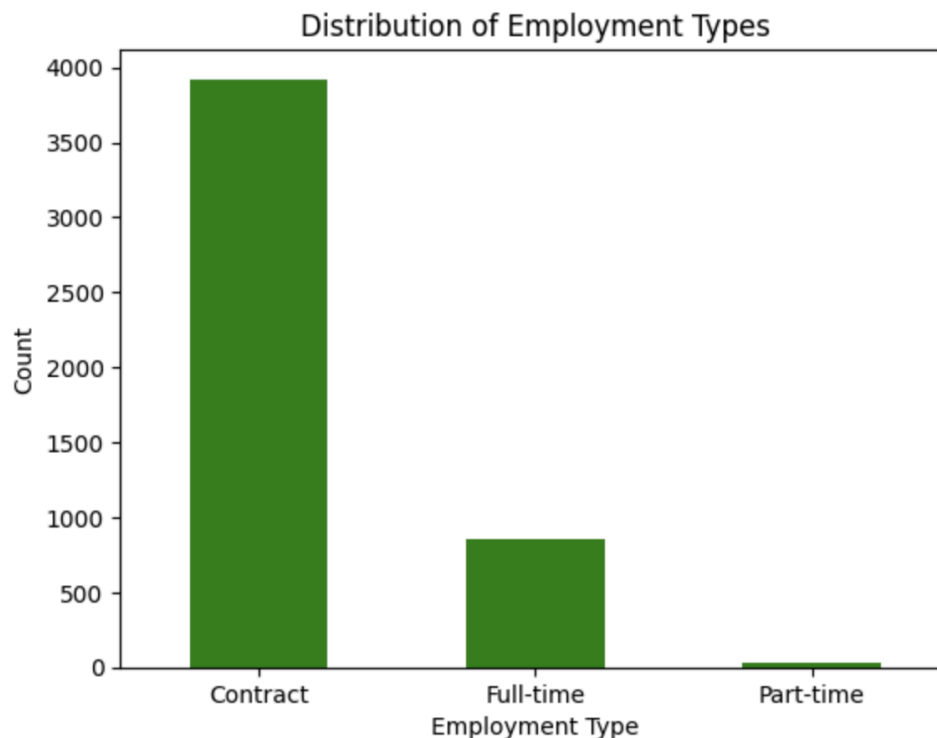
DICE JOBS ANALYTICAL REPORT

Introduction:

In this project, we aim to delve into the dynamic landscape of job postings across various locations, with a primary focus on major metropolitan areas such as San Francisco, New York, New Jersey, San Jose, and Seattle. Our objective is to unravel key insights into the job market trends and opportunities prevalent in these regions. Through meticulous web scraping techniques and data analytics, we will uncover the top 5 trending job titles, discern between full-time, part-time, and internship opportunities, analyze the prevalence of remote, hybrid, and onsite work arrangements, explore the skill sets demanded by the industry, investigate salary details where available, track the daily volume of job postings, ascertain work authorization requirements, evaluate job opportunities within a 25-mile radius of selected locations, and identify the total count of "easy apply" jobs. By comprehensively analyzing these facets, we aim to provide a comprehensive understanding of the job market landscape, facilitating informed decision-making for job seekers and recruiters alike.

Figure 1: Distribution of Employment Type

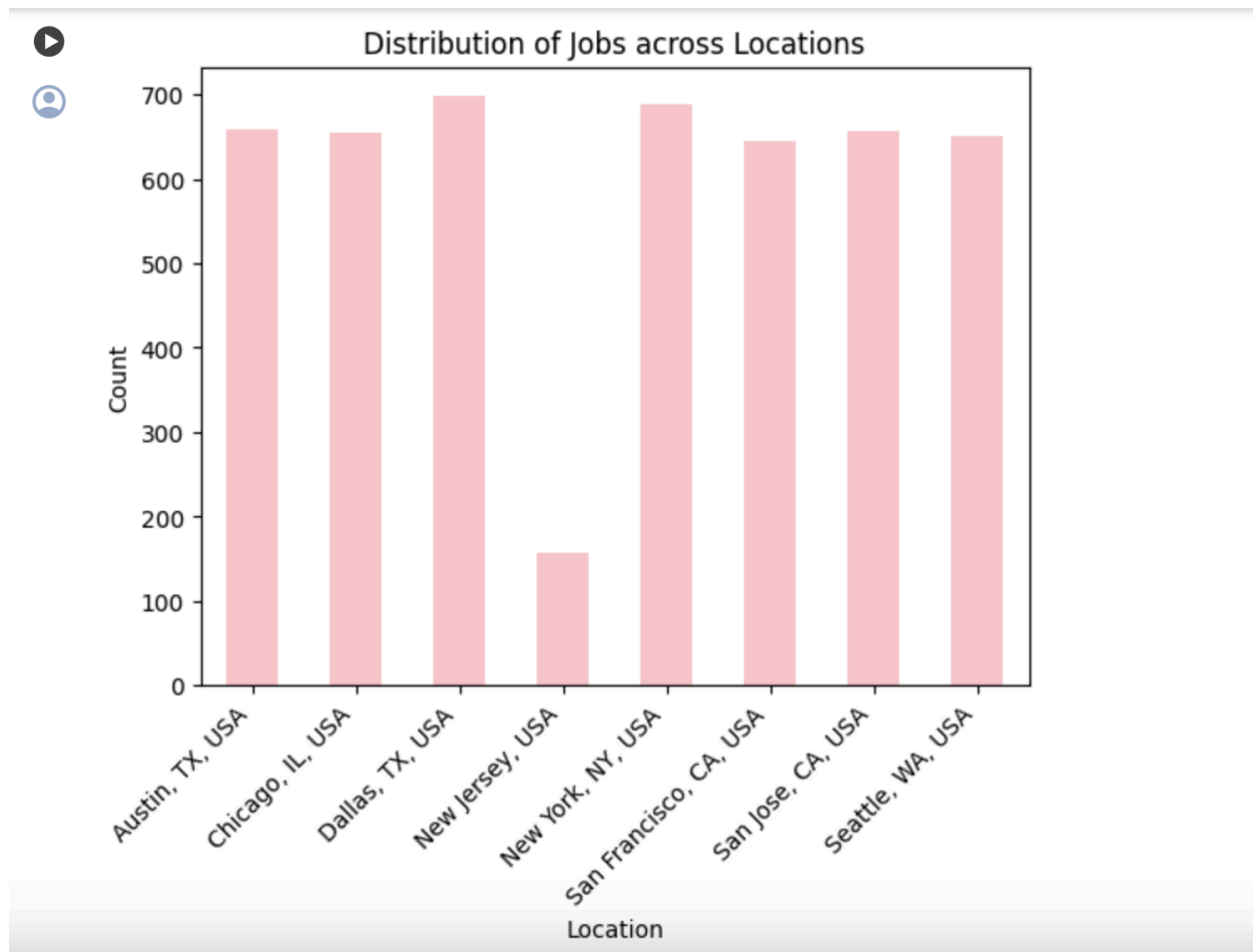
Research Question: To understand what types of job posting are being posted on the job portal Dice. (Contract, Full Type Employment or Part Time Positions)



The graph from the Dice Jobs portal clearly shows a predominant trend towards contract positions, with these roles significantly outnumbering full-time and part-time job postings. Approximately 3,921 contract positions are listed compared to about approx 852 full-time jobs. This pattern highlights a shift towards more flexible employment arrangements in the tech industry, likely driven by employers' needs for adaptability and cost-efficiency in a dynamic economic environment. This insight is essential for understanding current job market trends and employer preferences, particularly in technology sectors.

Figure 2: Distribution of Jobs across Locations

Research Question: To understand the job postings basis the locations for tech roles. (Targeted locations Texas, New Jersey, New York, San Francisco, San Jose, Seattle)



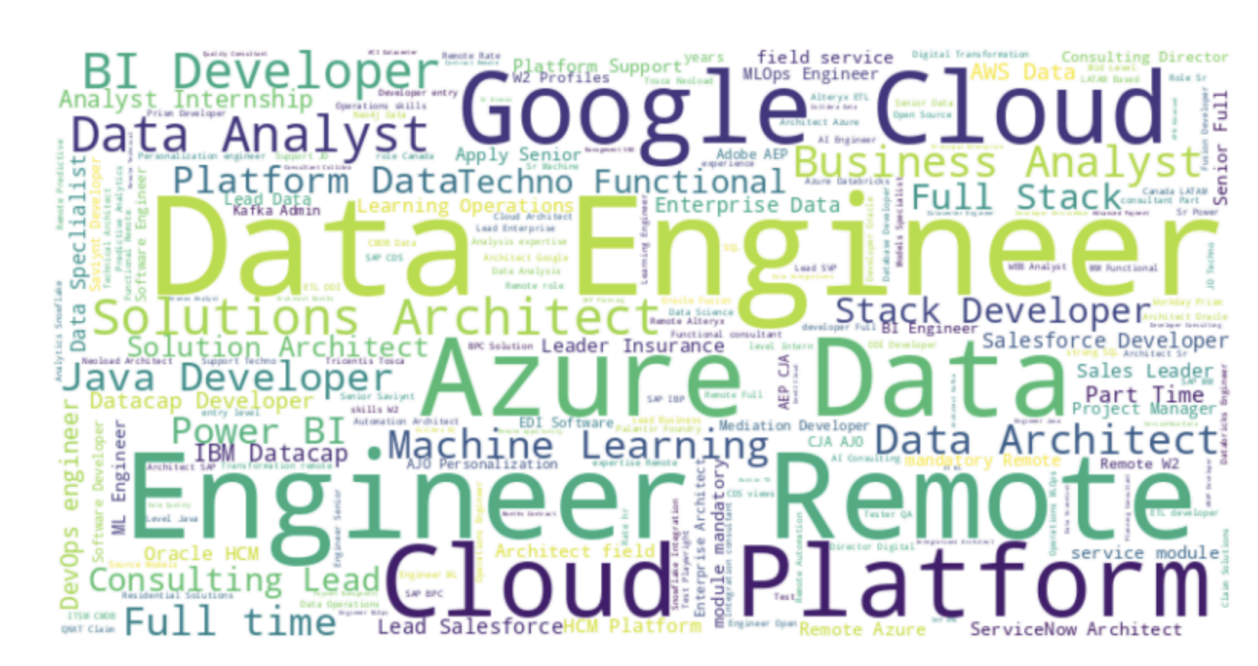
The bar chart "Distribution of Jobs across Locations" highlights the concentration of job postings in major U.S. cities, with Dallas, TX leading with 698 job opportunities, closely followed by New York, NY with 688 jobs, and Austin, TX with 658 jobs. These figures suggest that these cities are major hubs for employment, particularly in sectors like

technology and business, given their economic growth and development. San Jose, CA, and Chicago, IL also show substantial job counts, indicative of their status as key players in technology and diverse economic sectors, respectively.

In contrast, New Jersey shows significantly fewer job opportunities with only 157 postings, pointing to regional variations in job availability. This disparity suggests that job seekers, especially those in tech and innovation fields, might find better prospects in cities like Seattle, WA, and San Francisco, CA, which also offer a diverse range of opportunities. This analysis could serve as a guide for individuals and organizations making strategic decisions about where to allocate resources and efforts in the job market.

Figure 3: Analyzing the density of Job Titles Occurrence

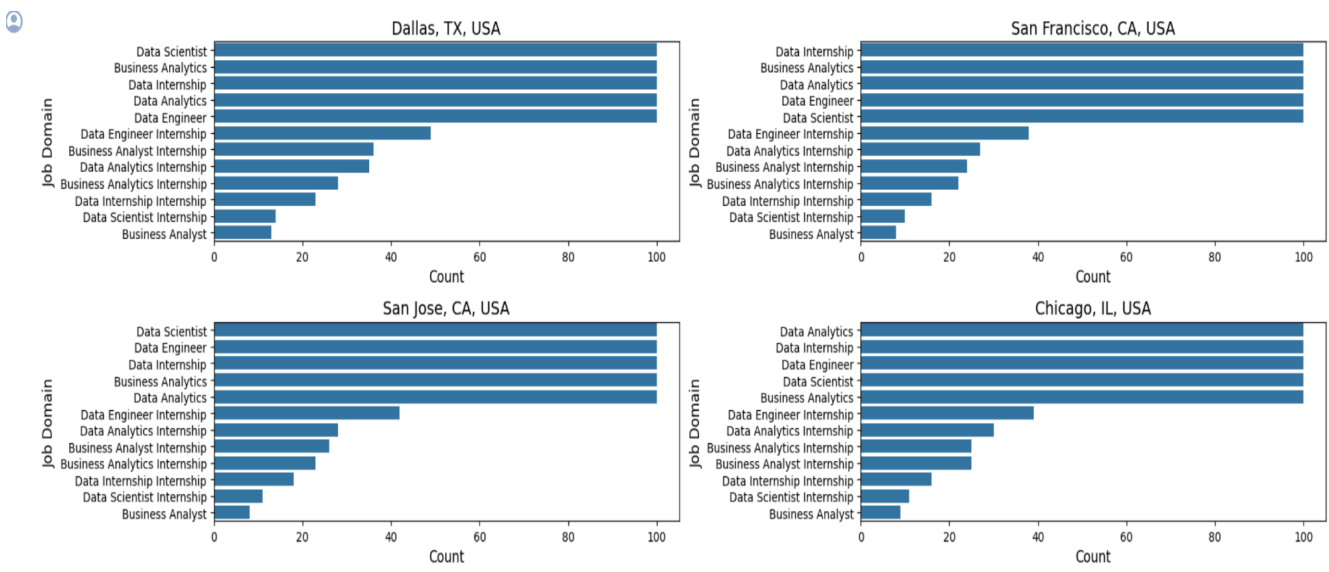
Research Question: Analysis of the job Title occurrence understanding the openings for the roles available and the dominant trend in the current job market

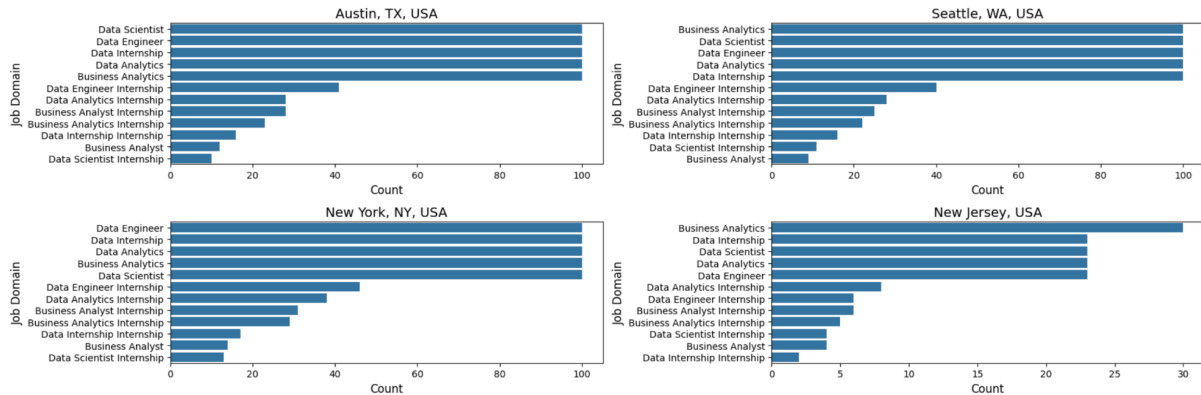


The word cloud visually summarizes the most frequent job titles and keywords from a dataset of job postings, revealing dominant trends in the current job market. The prominence of terms like "Data Engineer," "Cloud," "Azure," and "Machine Learning" underscores a high demand for roles in data handling, cloud services, and AI technology. This aligns with the tech industry's shift towards data-centric and cloud-based solutions. Notably, the emphasis on "Full Time," "Remote," and "Part Time" highlights varying employment types, with a significant focus on full-time and remote positions, reflecting the evolving work preferences post-pandemic. For job seekers and companies, these insights suggest a strong market demand for tech specialists, particularly those skilled in cloud technologies and data engineering, pointing to strategic areas for career development and recruitment focus. This analysis helps pinpoint where job opportunities are expanding, especially in tech-driven roles, guiding both job seekers in targeting their applications and educational institutions in tailoring their curricula to meet industry demands.

Figure 4: Count of Job Posting Title Domain basis the Locations

Research Question: Understanding the number of posting of targeted Job Titles in each targeted location

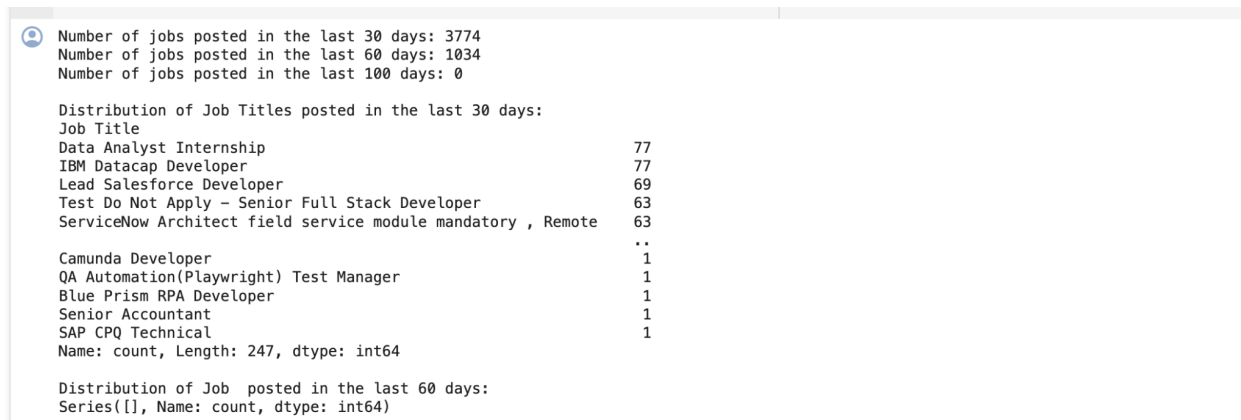




1. **High-Density Locations:** Dallas, TX and New York, NY show the highest counts, with around 100 postings for Data Scientist and Data Engineer positions, making these cities prime targets for those seeking full-time roles in established tech sectors. **San Jose, CA** also stands out, especially for those interested in cutting-edge technology roles, as it shows significant listings for Data Engineers and Data Scientists.
2. **Internship Opportunities:** Internship roles are prominently listed across all cities but are particularly notable in New York, NY, and San Jose, CA, where the Data Engineer Internship and Data Analyst Internship positions frequently appear. Students should consider these cities if they are looking to step into roles that provide practical experience in sizable markets.
3. **Emerging and Smaller Markets:** New Jersey shows a smaller total number of postings but a higher proportion relative to its market size in internships, indicating it might be an ideal location for those just starting out or looking for less competitive entry points into the data field.
4. **Strategic Targeting Based on Role and Location:** For full-time positions, students should focus on Dallas and New York where the demand for experienced roles is higher. Meanwhile, those seeking internship opportunities might benefit from applying to San Jose and New York, leveraging the high volume of entry-level roles to gain industry experience.

Figure 5: Count of Job Posting in last 30 and 60 Days along with the JOB Titles

Research Question: Analyzing the Job Market Postings in last 30 days and last 60 days and pulling the data of Job Titles



The data analysis reveals a notable trend in job postings over different time frames, which can provide significant insights for job seekers and market analysts alike. Over the last 30 days, there were 3,774 job postings, a substantial increase compared to the 1,034 postings in the preceding 30-day period (days 31-60). Interestingly, there were no job postings recorded in the days 61-100, indicating a possible seasonal or operational shift in hiring trends or data collection anomalies.

Key Observations from the Last 30 Days:

Popular Job Titles: The role of "Data Analyst Internship" and "IBM Datacap Developer" both saw the highest frequency with 77 postings each, suggesting a strong demand for these positions. Close behind were positions like "**Lead Salesforce Developer**" and "**ServiceNow Architect**," each with significant counts (69 and 63 respectively), indicating a robust market for these specialized skills.

Diverse Opportunities: The distribution also shows a wide range of other roles from "Test Do Not Apply - Senior Full Stack Developer" to niche roles like

"Camunda Developer" and "SAP CPQ Technical," each with fewer openings. This diversity in job titles reflects a broad spectrum of opportunities, catering to various expertise and experience levels.

Implications for Job Seekers:

Targeted Applications: Candidates looking for internships or entry-level positions might find ample opportunities in data analytics and software development roles, particularly with companies investing in digital transformation and data processing technologies.

Skill Development: The prominence of roles such as Salesforce Developer and ServiceNow Architect suggests that job seekers should consider developing or honing skills in these platforms, which are evidently in high demand.

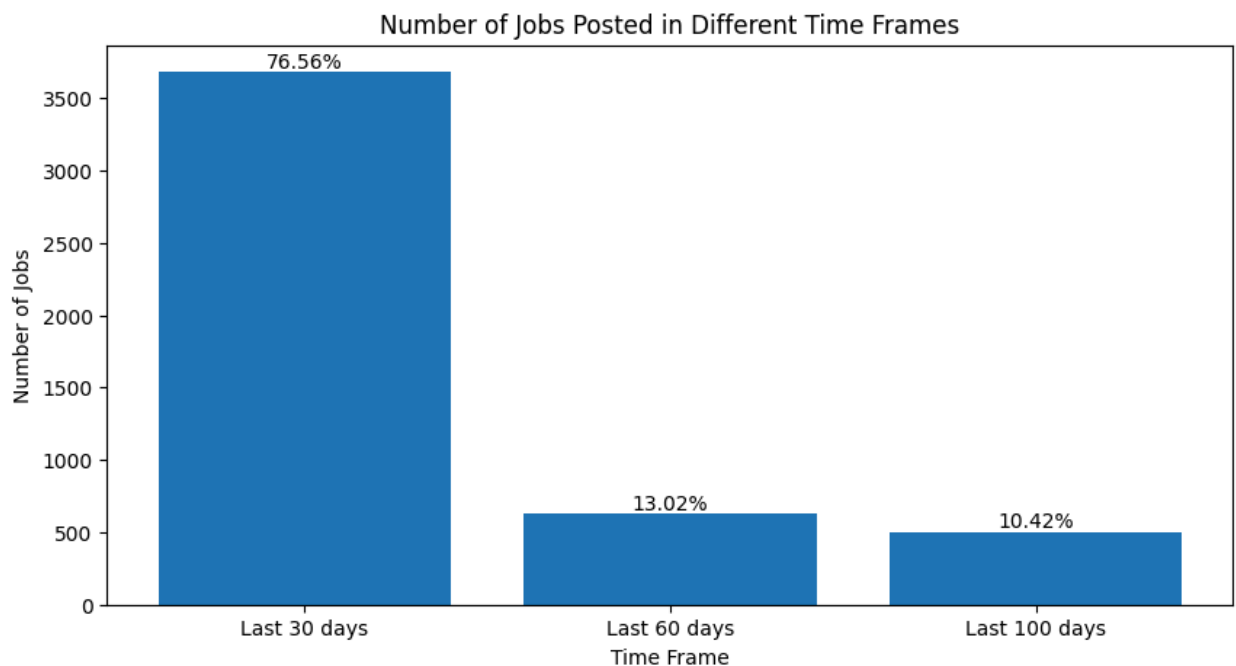
Market Awareness: The absence of job postings in the 61-100 day window could suggest either a seasonal dip in hiring or a recent ramp-up. It's crucial for job seekers to stay informed about such trends, which could affect the timing and strategy of their job applications.

Conclusion:

The analysis of job posting trends over recent months indicates a dynamic job market with periods of intense hiring followed by quieter phases. Job seekers should align their application strategies with these trends, focusing on roles and skills that are currently in high demand, and remain vigilant about changes in the market that could affect their job search outcomes. This proactive approach can significantly enhance their chances of securing desirable positions in competitive fields.

Figure 6: Number of JOb Posted in Different Time Frames

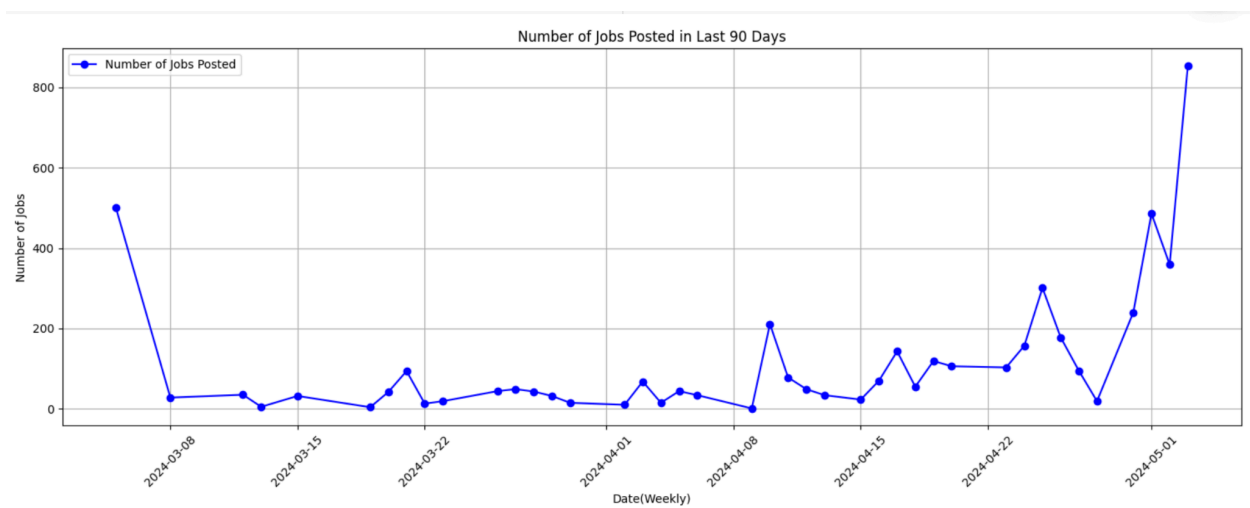
Research Question: Analyzing the Job Market Postings in last 30 days and last 60 days and 100 days understanding the fluctuation in Hiring Activity



The bar chart depicting job postings over various time frames reveals a dynamic U.S. job market with significant fluctuations in hiring activity. In the last 30 days, there has been a remarkable surge in job postings, totaling 3,774, which is a substantial increase compared to the 1,034 listings in the preceding 60 days. This drastic rise represents a nearly 265% increase in job opportunities, suggesting a robust hiring phase potentially triggered by economic recovery, seasonal hiring, or strategic business expansions. In stark contrast, there were no job postings recorded in the following 100 days, indicating a potential seasonal dip or a pause in hiring activities. This data is crucial for job seekers and employers alike, highlighting the importance of timing in the job search and recruitment processes, and underscoring the need to stay vigilant and responsive to the fast-paced changes in the job market.

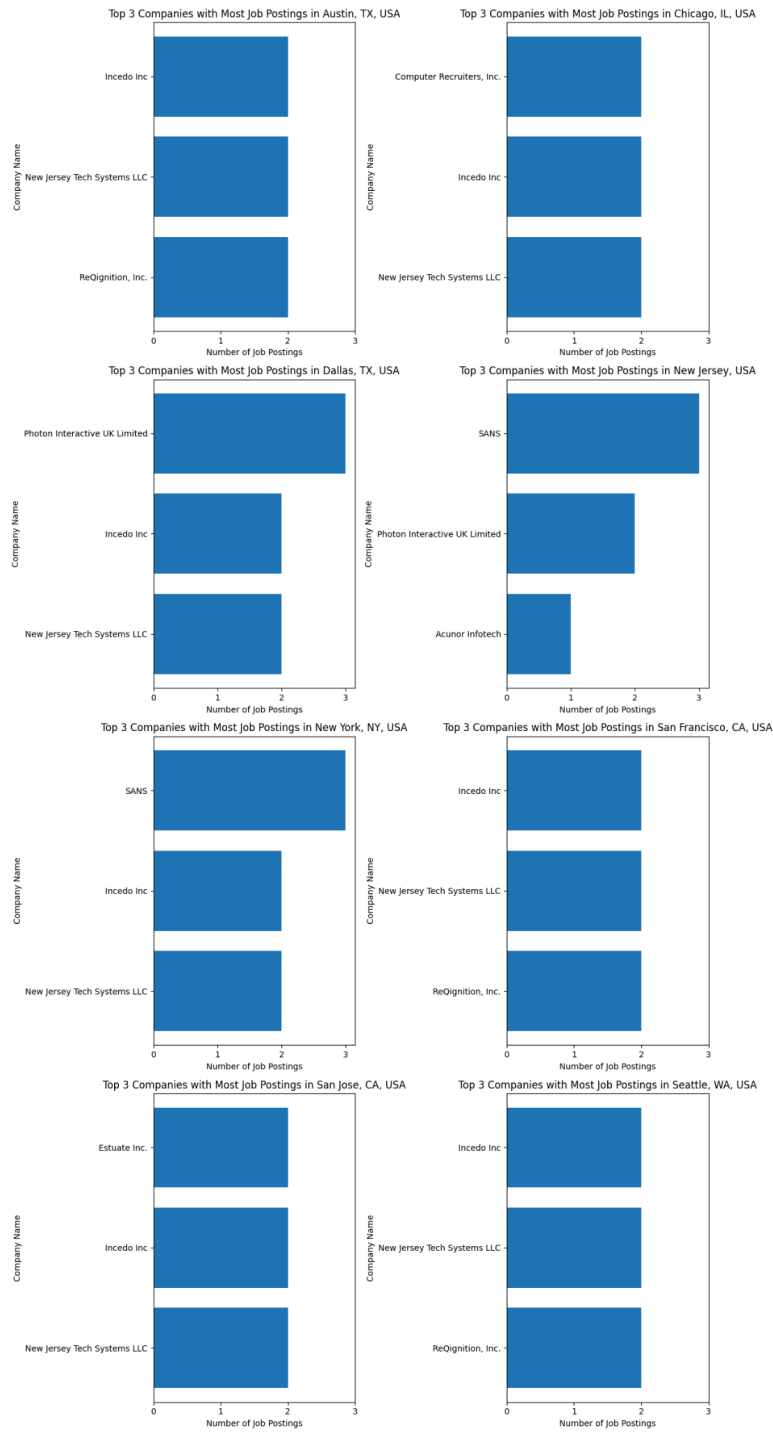
Figure 7: Number of Job Posted in last 90 Days

Research Question: Analyzing the Job Market Postings in last 90 days understanding the fluctuation in Hiring Activity and application patterns



The graph depicting the number of job postings over the last 90 days begins with a high of nearly 800 postings, followed by a sharp decline to below 200 within a week, stabilizing at an average of 100 to 200 weekly postings. Notable spikes include a peak reaching over 300 in mid-April and another significant increase at the graph's end, approaching the initial high. These fluctuations likely reflect the impact of seasonal hiring patterns, industry-specific events, and broader economic trends. Analyzing these figures can help pinpoint the most active hiring periods, providing strategic insights for both job seekers and employers to optimize their application and recruitment efforts respectively.

Figure 8: Top 3 Companies with most JOb Posting in each Location



The bar graphs show the top three companies with the most job openings in various U.S. cities, indicating key industry players and economic trends. This data highlights the top 3 companies with highest number of job postings in each targeted location