



INNOMATICS[®]
RESEARCH LABS

INNOVATION. AUTOMATION. ANALYTICS

PROJECT ON

Exploratory Data Analysis On AMCAT Data

About me

- I am currently in Final year of my B.Tech in CSE-Data Science.
- I am really passionate about Data science because it allows me to take data driven decisions and help me solve complex problems. As the saying goes “Data is the wealth” and I want to be a part of it.
- I am currently an intern in Innomatics Research Labs, where I have been working on various data driven projects. Additionally I have done some courses related to Data Science and Artificial intelligence .



<https://github.com/Rakshitha2211/AMCAT-DATA-ANALYSIS>



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Agenda

- **Objective of the Project:**
- The objective is to analyze a dataset that includes job roles, salaries, educational backgrounds and gender to uncover key patterns, trends and correlations. This analysis aims to:
 - Identify factors that most influence salary levels.
 - Understand how education impact job roles and salaries.
 - Explore gender-based salary distributions.
 - Provide the actionable insights to help business developer for a salary policies and more effective hiring strategies for each

Data Cleaning Steps

- Import Libraries
- Load Dataset
- Check for Missing Values
- Handle missing values if exists.
- Remove Duplicates
- Check Data Types
- Change data types if required.
- Outlier Detection and Removal
- Reset Index

Univariate Analysis

College State Insights:

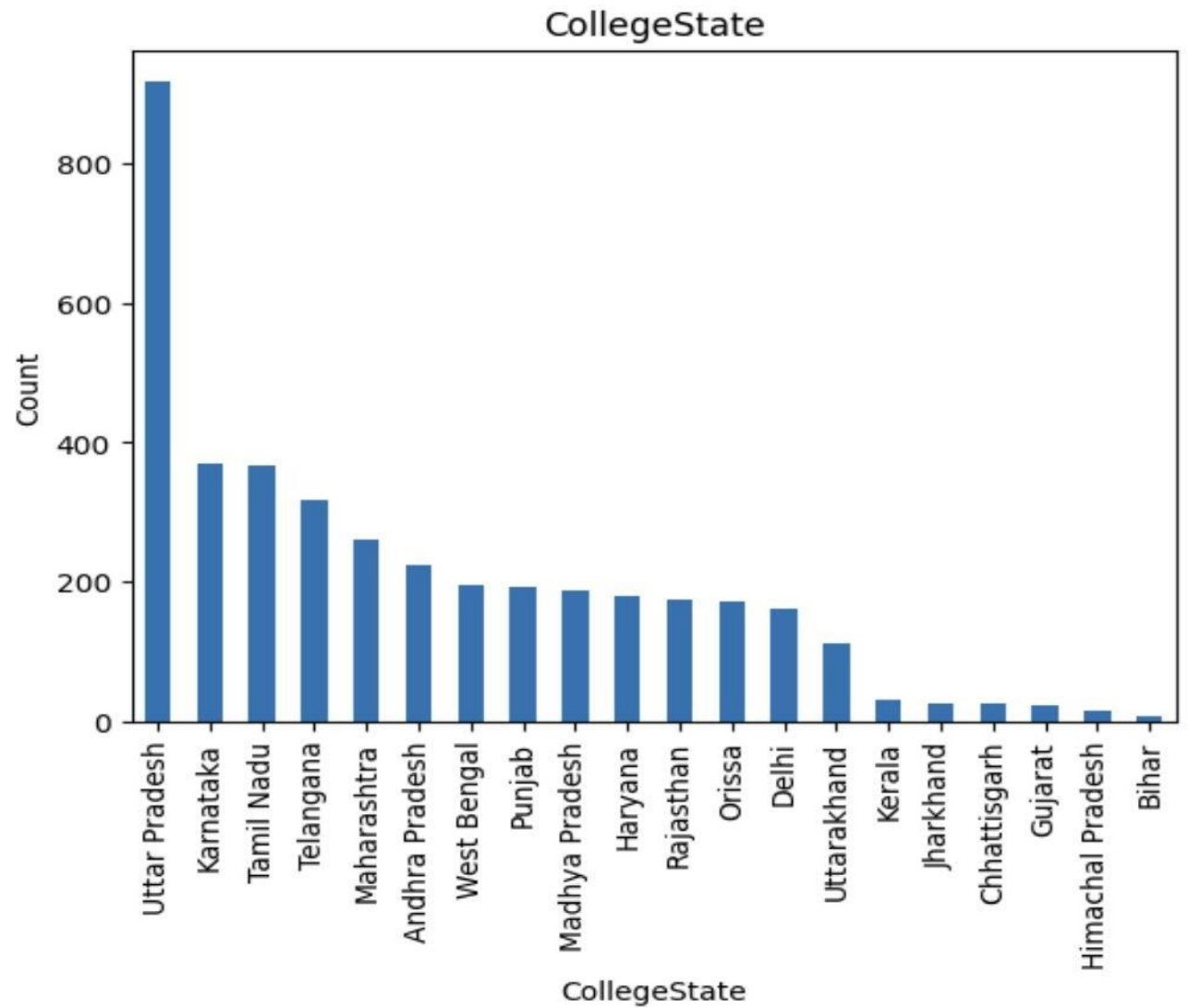
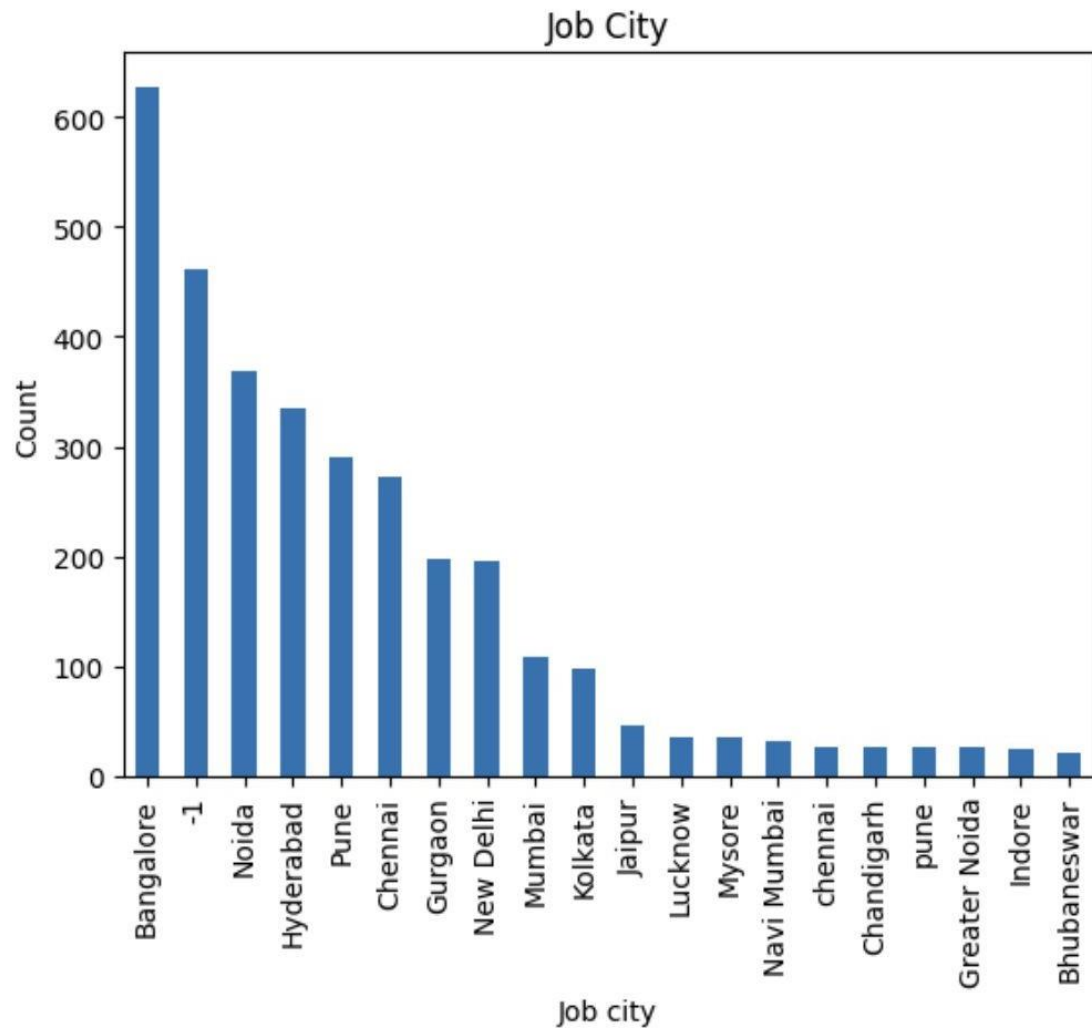
- The leading states with prominent colleges, as reflected in the dataset, are Uttar Pradesh, Karnataka, Tamil Nadu, Maharashtra, West Bengal, Punjab, Madhya Pradesh, Haryana, and Delhi.
- This indicates that these states play a significant role in producing skilled graduates entering the workforce.

Job City Insights:

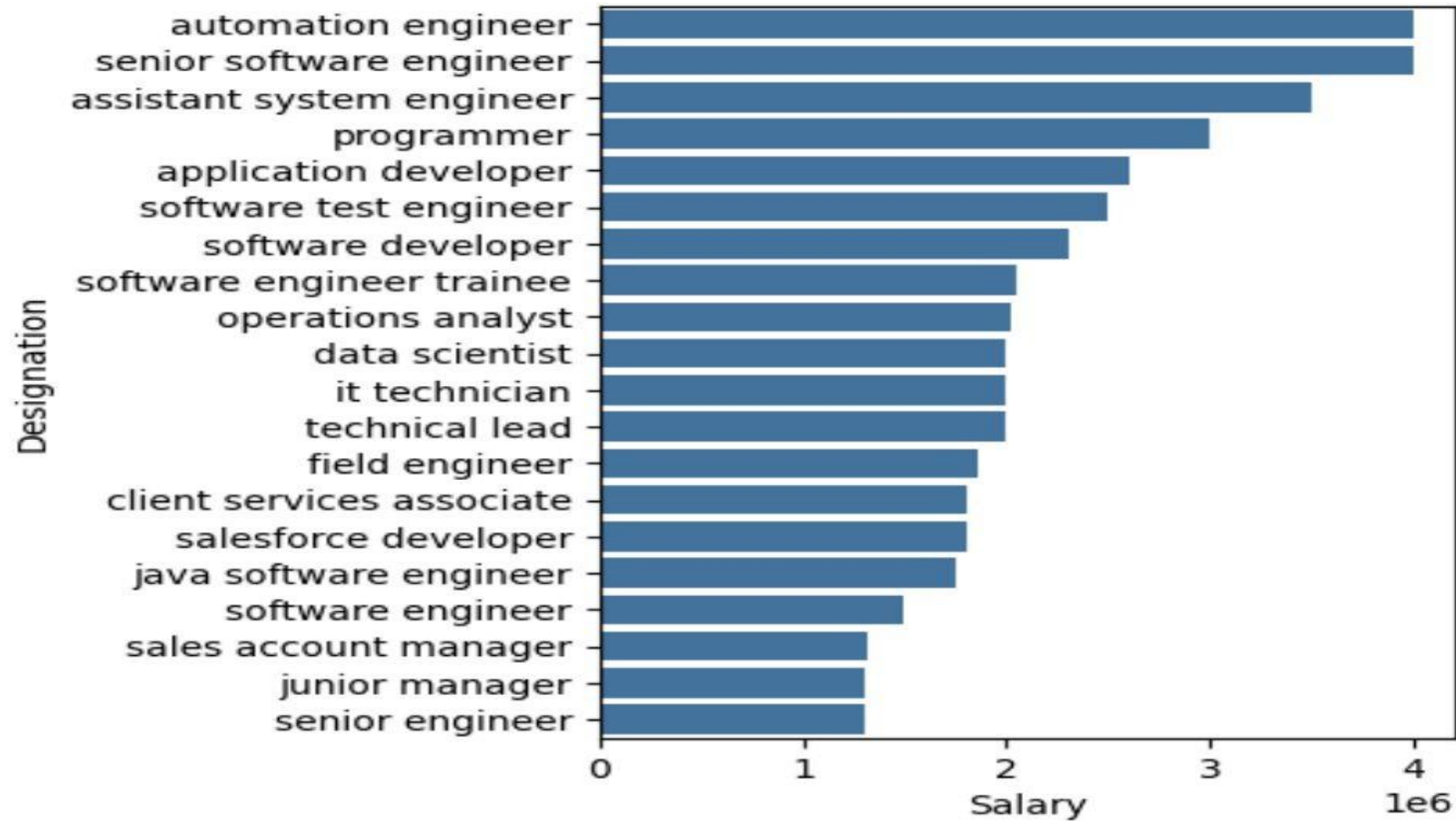
- The dataset highlights the top cities for jobs, including Bangalore, Noida, Pune, Gurgaon, Mumbai, Lucknow, Mysore, Navi Mumbai, and Delhi.
- These cities emerge as major employment hubs, with job opportunities spread across various industries.

Gender Distribution Insights:

- The gender distribution in the dataset reveals that approximately 70% of the candidates are male, while 30% are female.
- This suggests a gender imbalance, with males being more highly represented.
- Understanding this distribution is essential for analyzing gender diversity and promoting inclusivity in hiring and workplace practices.



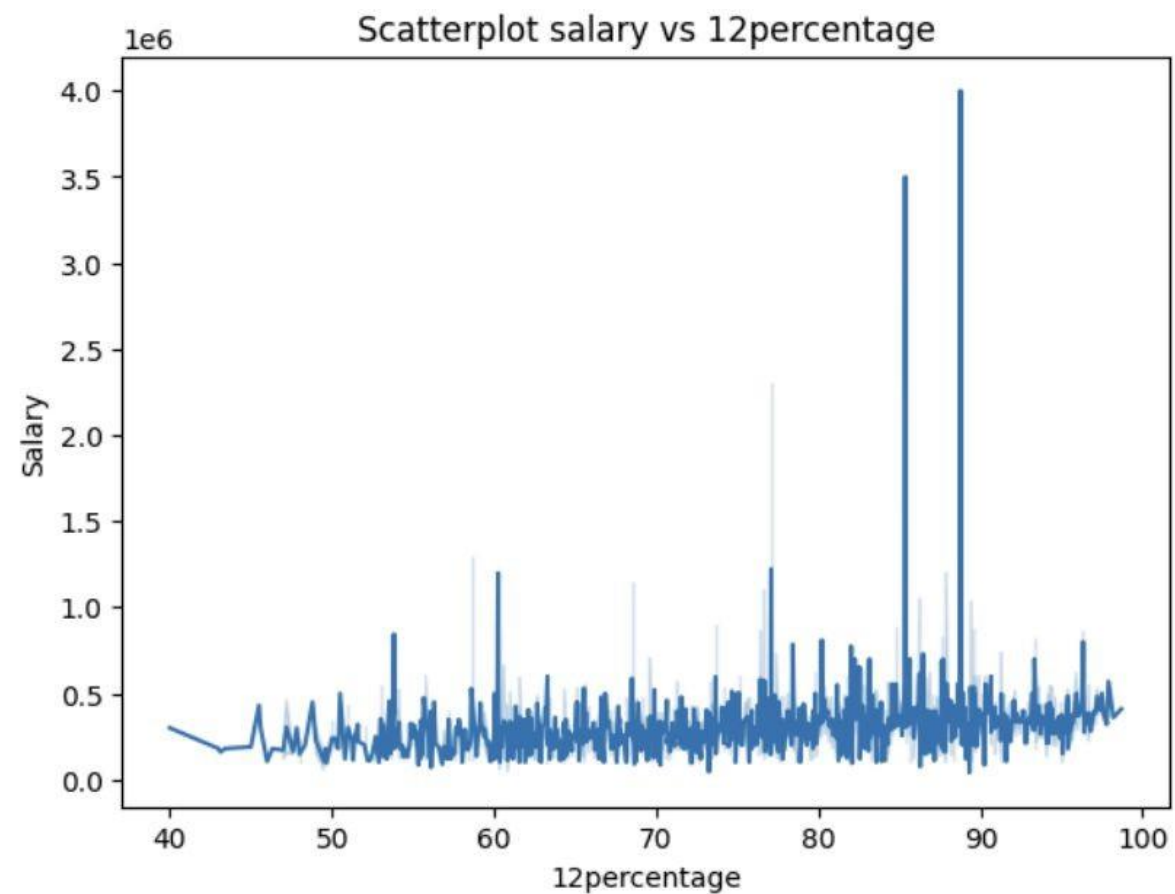
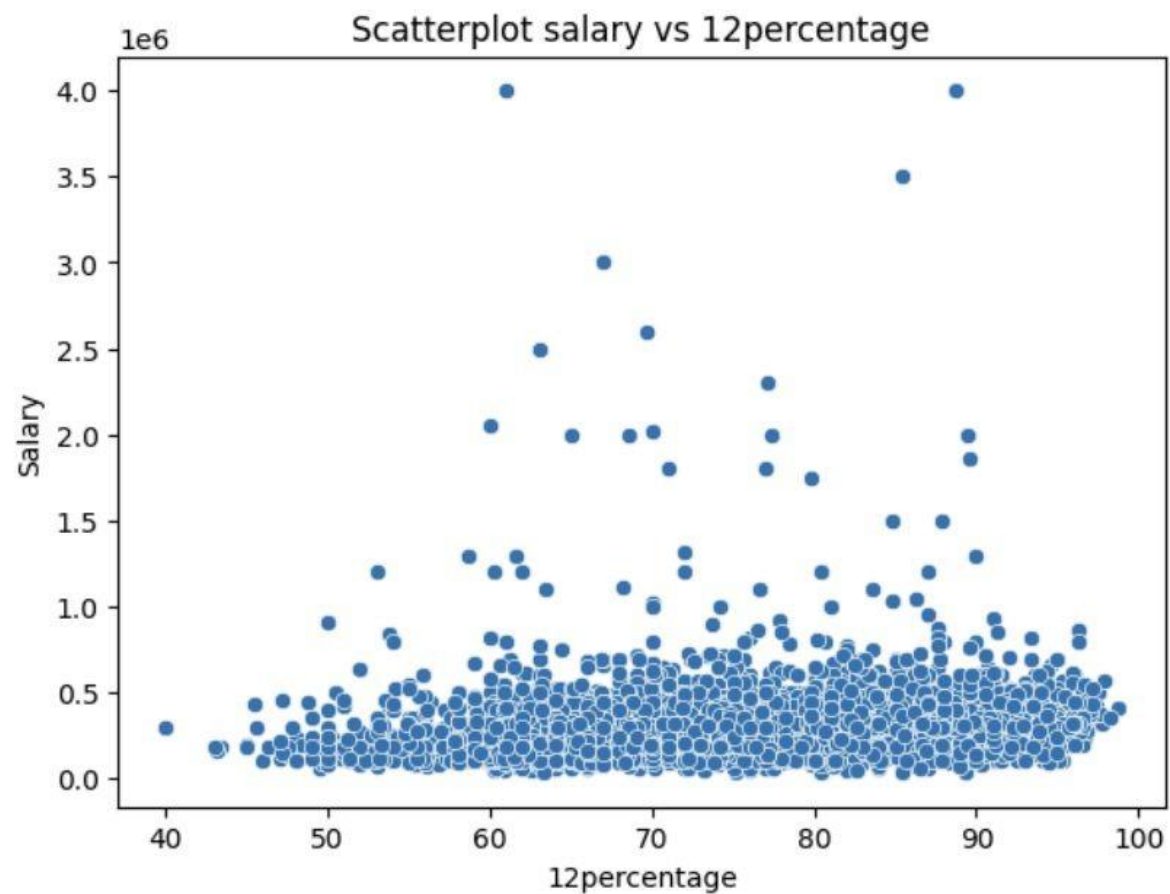
Which top 50 jobs Designation has more salary in IT companies ?



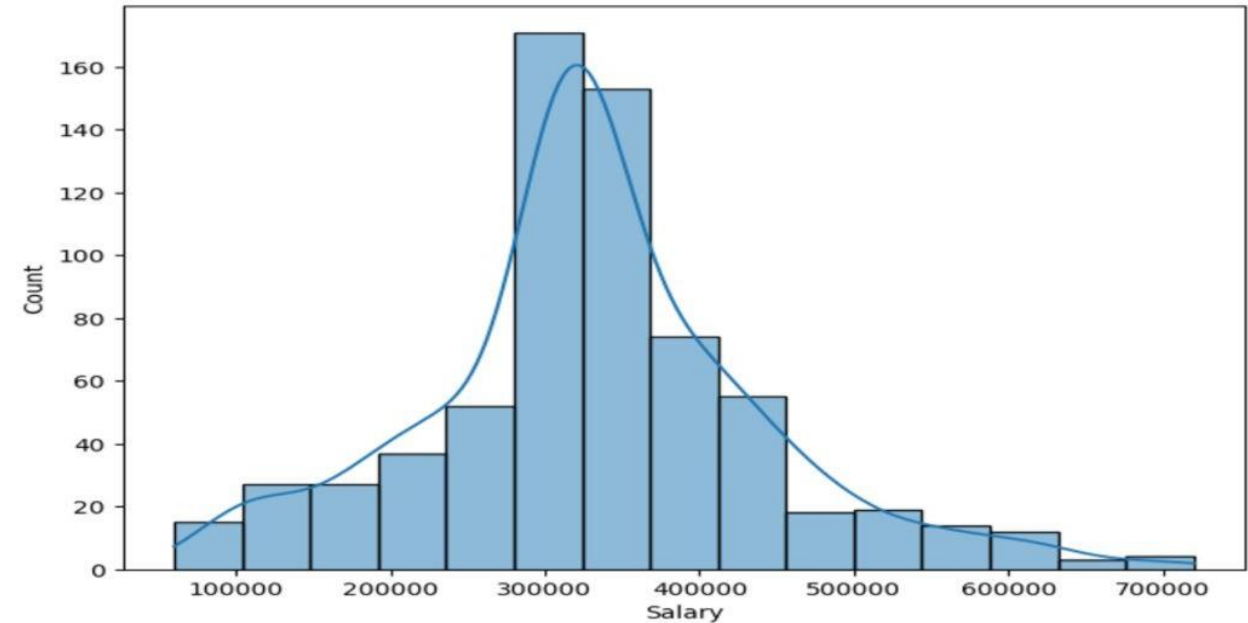
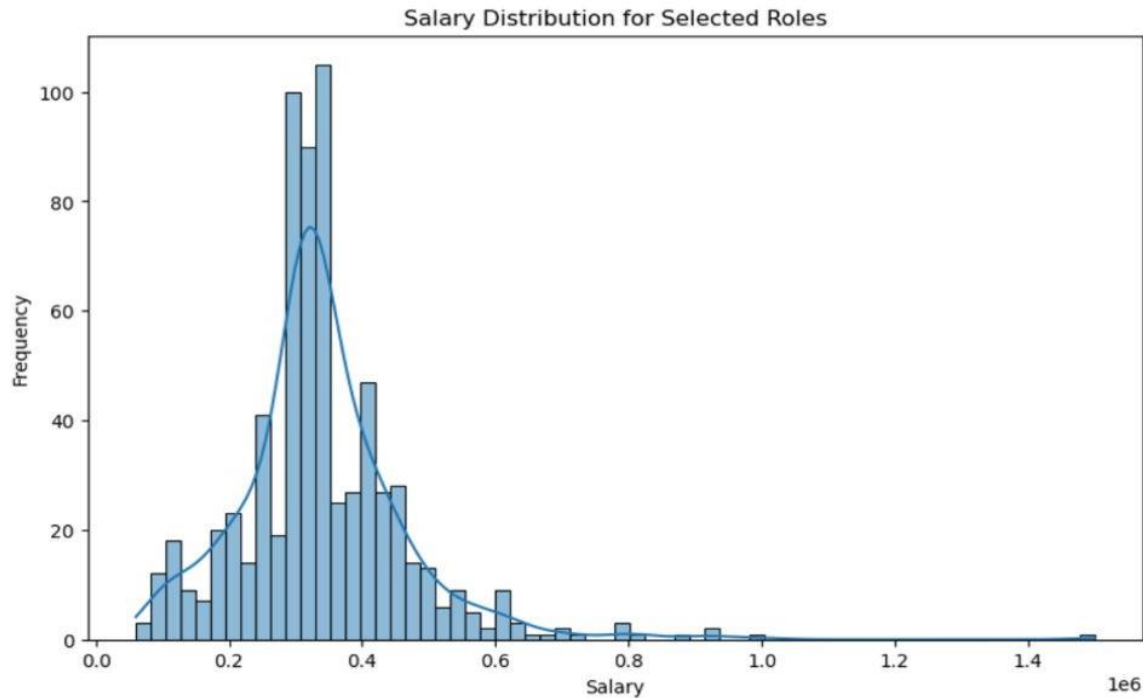
Bivariate Analysis

12th Percentage vs Salary

- Correlation Analysis: There is a notable positive correlation between 12th percentage and salary (correlation coefficient = 0.169, p-value = 0.000), indicating that higher 12th percentages are linked to higher salaries.
- Impact on Salary Negotiation: Candidates with higher 12th percentages may have stronger leverage when negotiating salaries during job offers or promotions.
- Employer Consideration: Employers may consider strong 12th-grade performance as a reflection of academic diligence and potential contribution, influencing salary decisions.



Claim : Software Engineer, Hardware Engineer and Associate Engineer you can earn up to 2.5-3 lakhs as a fresh graduate..5-3 lakhs as a fresh graduate. Test this claim with the data given to you.



Conclusion

- A significant portion of students have GPAs between 65% and 90%, demonstrating overall strong academic performance.
- A CGPA above 60% is closely linked to better job opportunities and salary negotiation power, indicating the importance of academic achievement in the job market.
- The dataset shows a noticeable gender imbalance, with males constituting around 70% of the candidates, underscoring the need for more inclusive hiring practices.
- Major employment hubs include Bangalore, Pune, Gurgaon, and Mumbai, with these cities offering better opportunities, particularly in IT and data-related roles.
- Salary distribution shows that while a few graduates achieve high-paying roles, the majority struggle to secure similar compensation, reflecting the challenges of entering the job market as a fresh graduate.

THANK YOU

