



**INNOMATICS<sup>®</sup>**  
**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/Harshavarma04/AMCAT-EDA>



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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

# Univariate Analysis

## College State Insights:

- The leading states with colleges 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 work place.

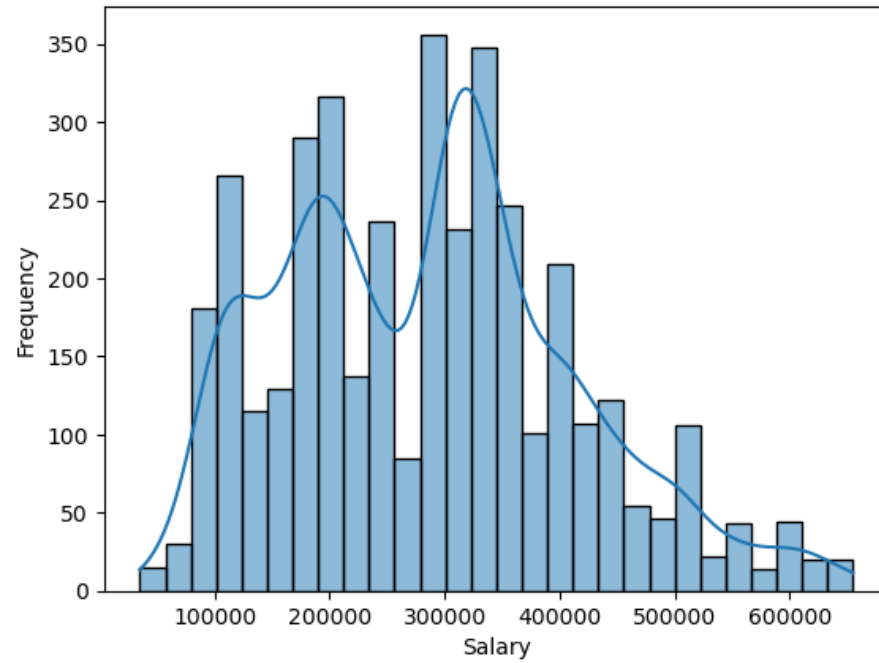
## Job City Insights:

- 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.

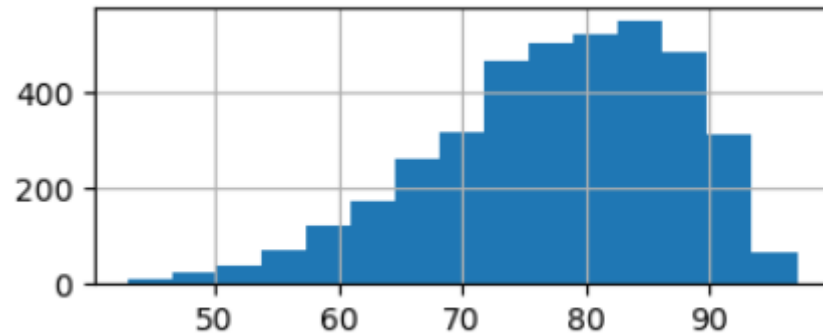
## Gender Distribution Insights:

- This distribution helps us know about the gender distribution across the dataset .
- It shows the gender imbalance, with males dominating females.

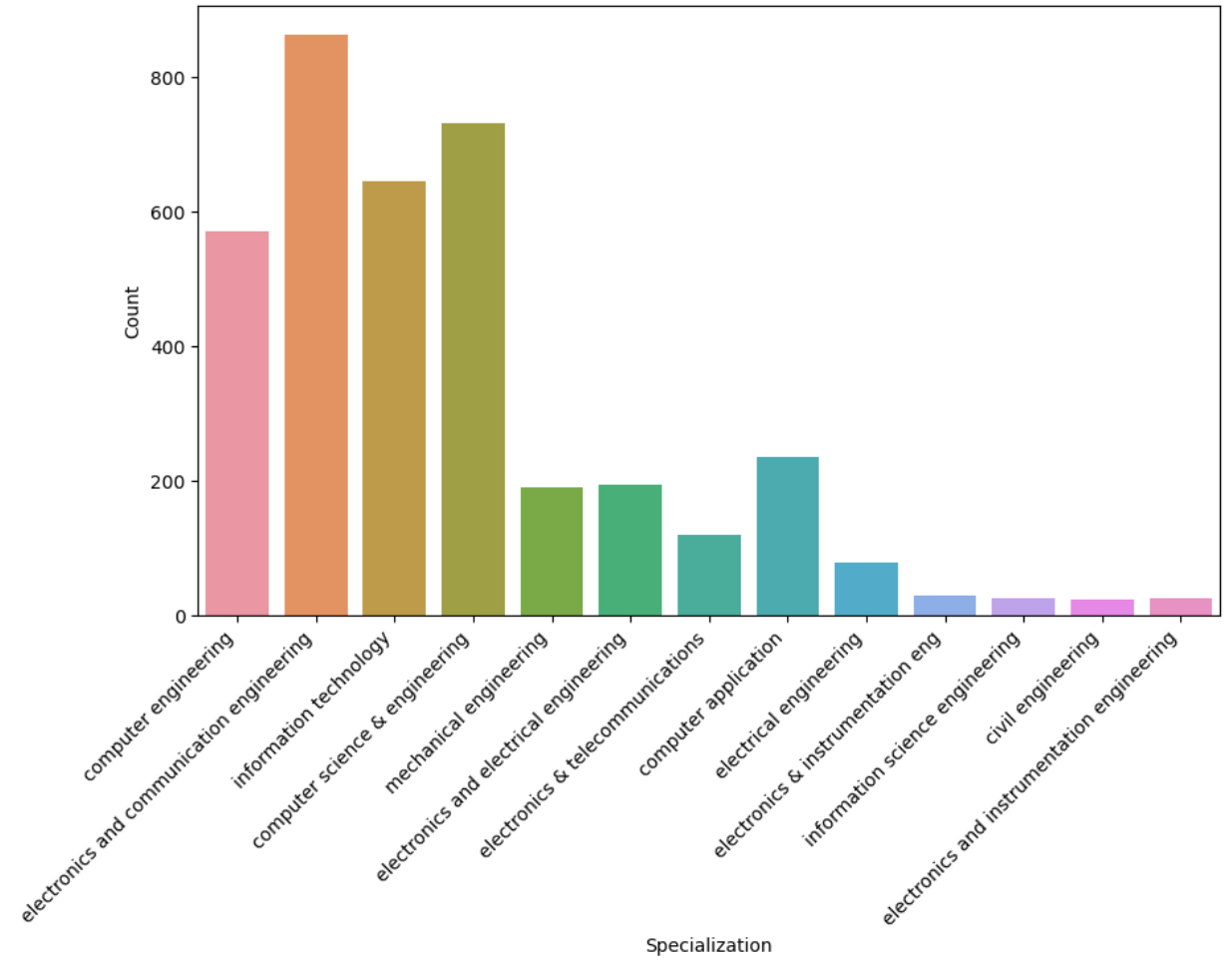
Salary Distribution with PDF



10percentage



Filtered Specialization Distribution



# BIVARIATE ANALYSIS

## **Salary vs. Gender:**

- There is a noticeable gap between male and female salaries, with men generally earning more across various job roles, especially in technical fields.
- Certain job roles show a larger salary gap between genders.

## **Salary vs. Experience:**

- There is a positive correlation between years of experience and salary, with salaries increasing significantly as employees gain more experience. However, salary growth plateaus after about 8-10 years.

## **Salary vs. Education Background:**

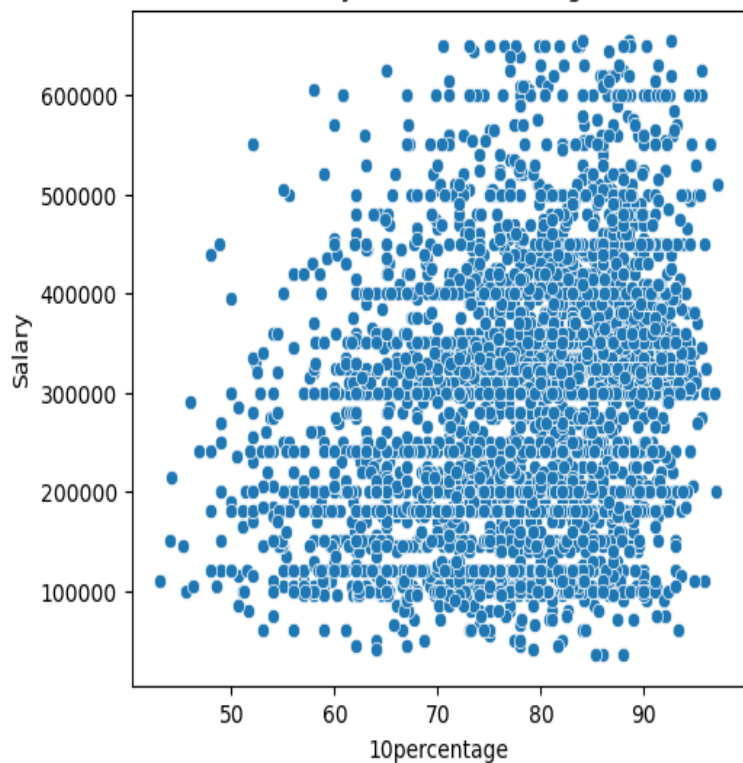
- Graduates with a Computer Science degree earn higher salaries on average compared to graduates from Civil, Mechanical, or other engineering disciplines.
- Education plays a critical role in determining job positions and salary levels.

## **Gender vs. Job Role Distribution:**

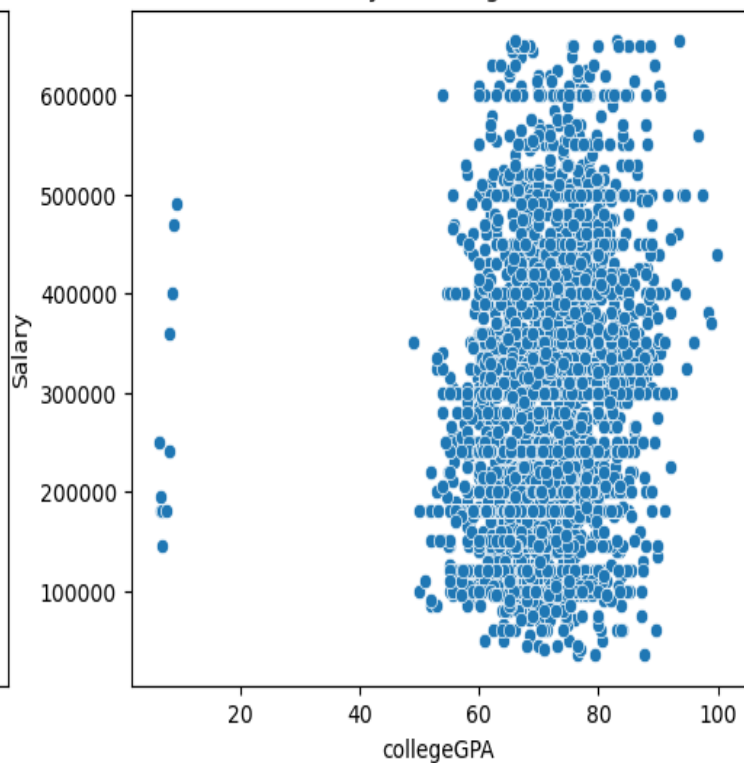
- Men are more represented in higher-paying technical and managerial roles, while women are more likely to be in mid-level roles with lower salaries.



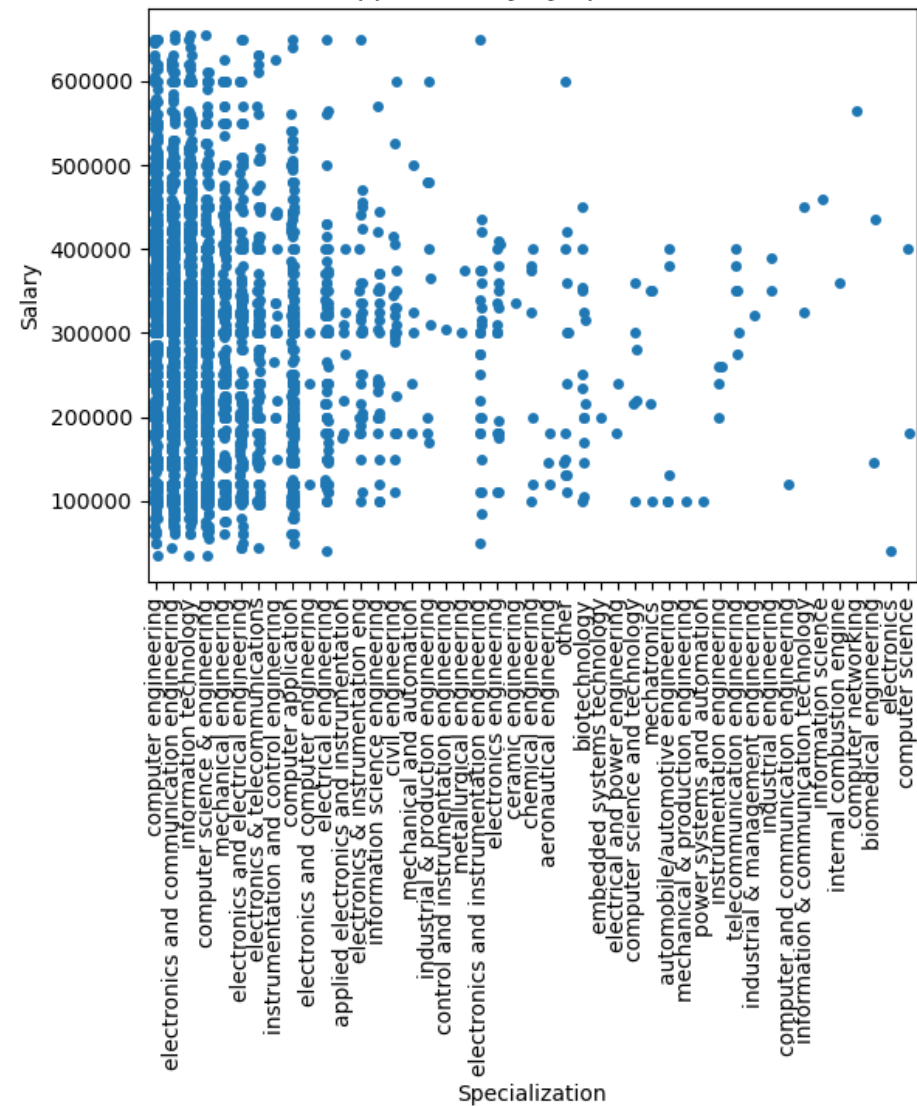
Salary vs 10th Percentage

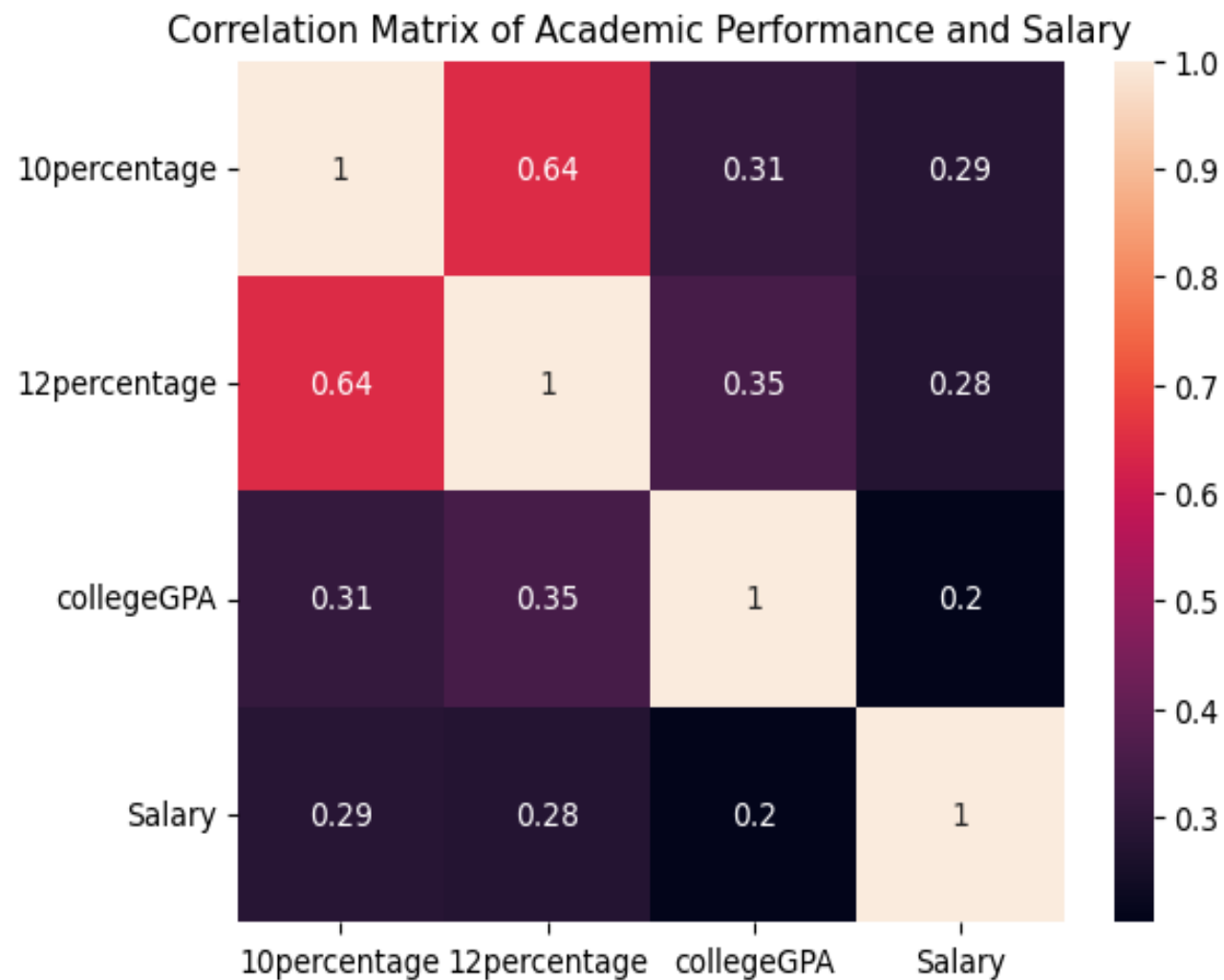
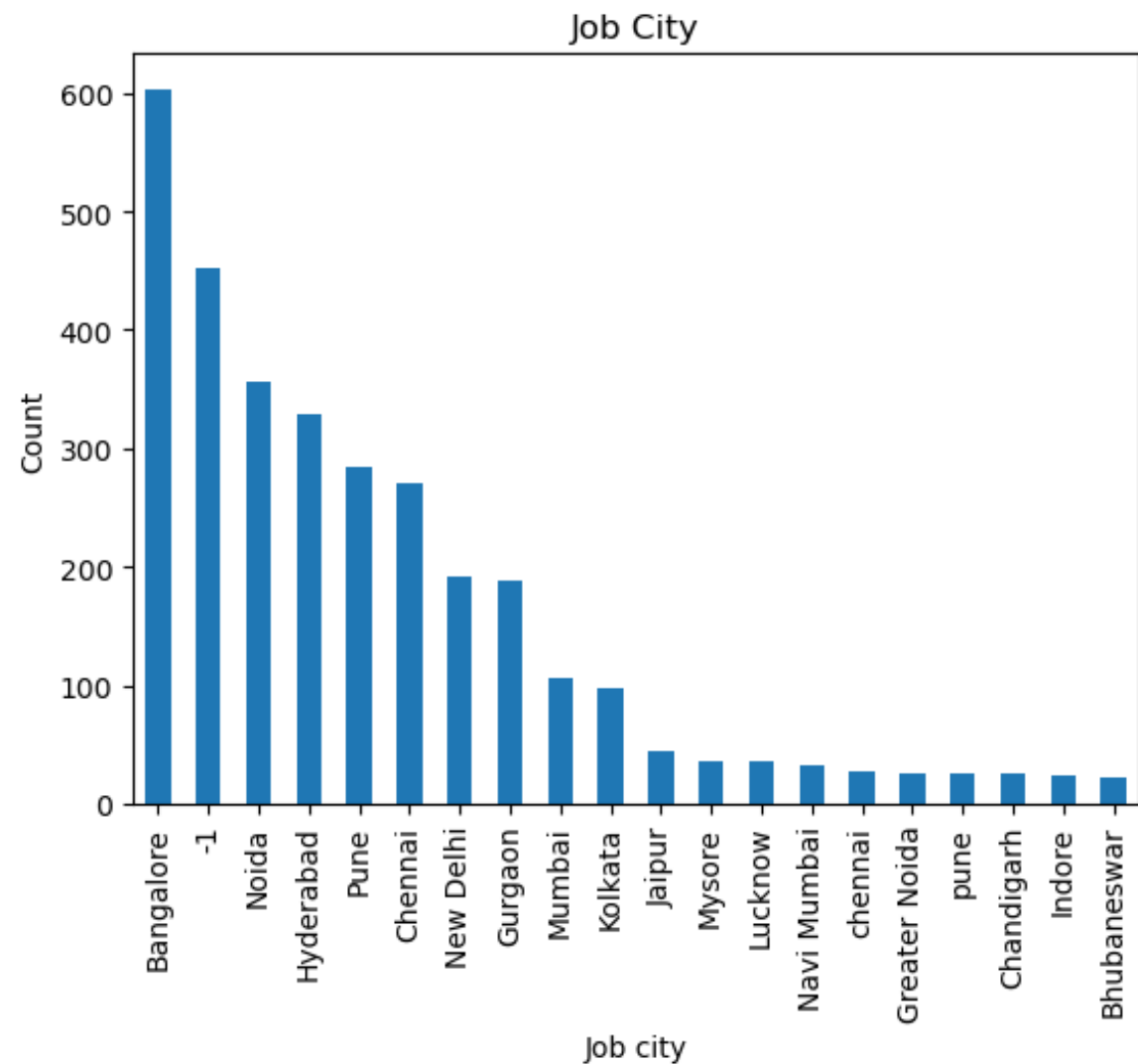


Salary vs College GPA



Stripplot: Salary by Specialization





THANK  
YOU

