PROJECT

RECRUITMENT DATA ANALYSIS

INTRODUCTION

This analysis aims to solve the recruitment problem of a company. The hiring team is getting an increasing number of applications for multiple job roles, that's why the team is lacking clarity on applicant trends and hiring outcomes. They are trying to find a systematic way to store the data and to know about the offered and rejected applicants' average age, gender analysis.To create this project, I have used two tools: Python and MySQL.

PROJECT OBJECTIVES

The company is receiving a high volume of job applications across different roles, but there is limited visibility into applicant trends and hiring patterns. The recruitment team does not have a structured way to monitor total applications, acceptance rates, or variations in candidate profiles such as age, gender, experience, and education level. Without these insights, it becomes difficult to evaluate whether the talent pool aligns with hiring requirements.

The objective is to transform raw recruitment records into actionable insights that can support improved hiring strategies, workforce planning, and more data-driven decision-making within the recruitment process.

01. Identify key hiring metrics such as number of applications, accepted candidates, and applicant demographics.

02. Analyze recruitment trends across job roles, experience levels, gender, and time periods.

03. Generate insights to support data-driven hiring decisions and improve recruitment transparency and efficiency.

METHODOLOGY

01

Imported the CSV file in
Python and Jupyter Notebook,
Pandas library
has been to clean and transform the
Data.

02

I have used pymysql Connector to
connect Python to MySQL
I have created the Database and the
Table in Python and inserted the
values as well in Python.

03

I have done analysis in MySQL
Database,
here I have Queried KPIs
and solved problem question.

KEY METRICS

TOTAL APPLICANTS

```
SELECT COUNT( APPLICANT_ID)
AS TOTAL_APPLICANTS
FROM RECRUITMENT_DATA
```

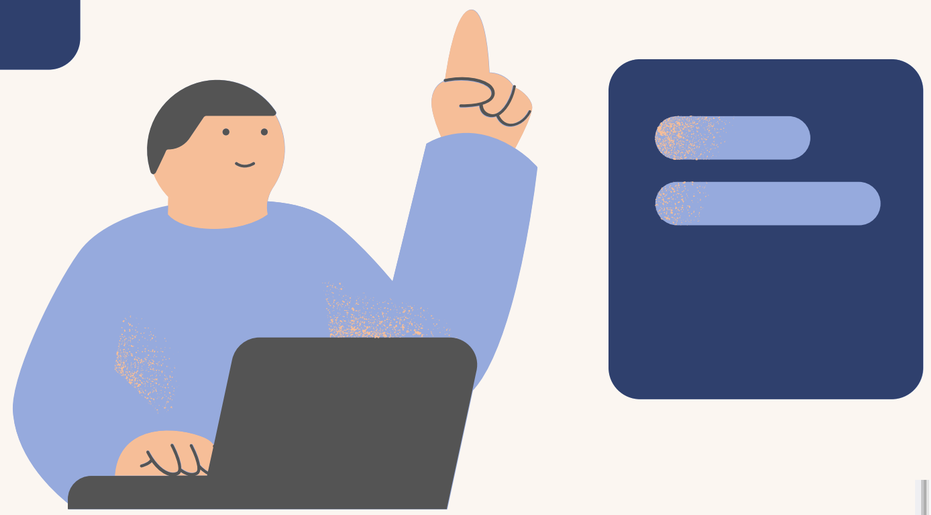
total_applicants
3000

AVERAGE AGE

```
SELECT ROUND(COUNT( AGE) , 0)
AS AVG_AGE
FROM RECRUITMENT_DATA
```

Avg_age
42

KEY METRICS



TOTAL SELECTED CANDIDATES

	Selected_candidates
▶	610

```
SELECT COUNT(*) AS
SELECTED_CANDIDATES
FROM RECRUITMENT_DATA
```

AVERAGE YEAR OF EXPERIENCE

	Avg Years of Experience
▶	10

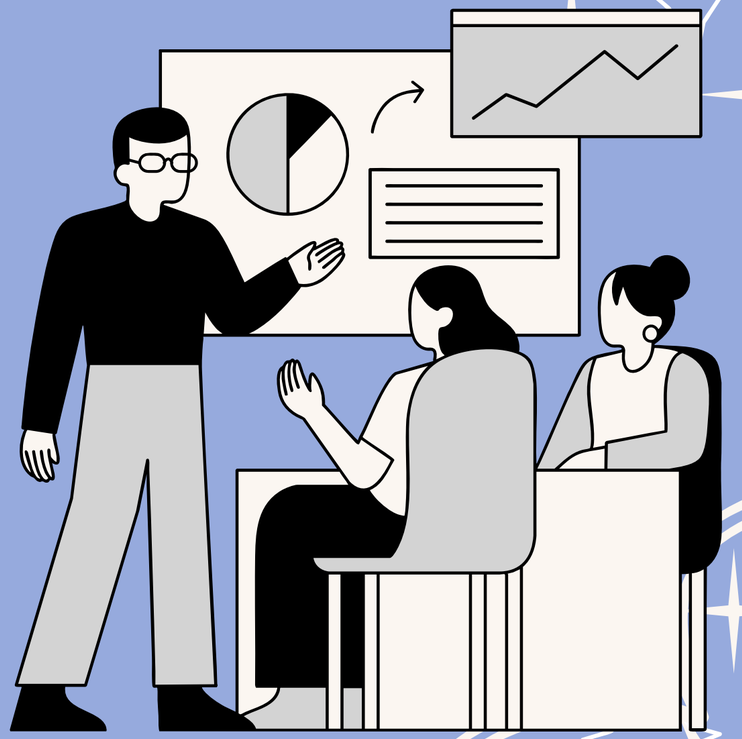
```
SELECT ROUND(COUNT(YEAR OF
EXPERIENCE) , 0)
AS `AVG YEARS OF EXPERIENCE`
FROM RECRUITMENT_DATA
```

RECRUITMENT ANALYSIS QUESTIONS

WHICH TOP 5 JOB TITLES OR ROLES RECEIVED MOST APPLICATIONS?

```
SELECT `JOB TITLE`, COUNT(*)
AS `TOTAL APPLICANTS`
FROM RECRUITMENT_DATA
GROUP BY `JOB TITLE`
ORDER BY `TOTAL APPLICANTS`
LIMIT 5;
```

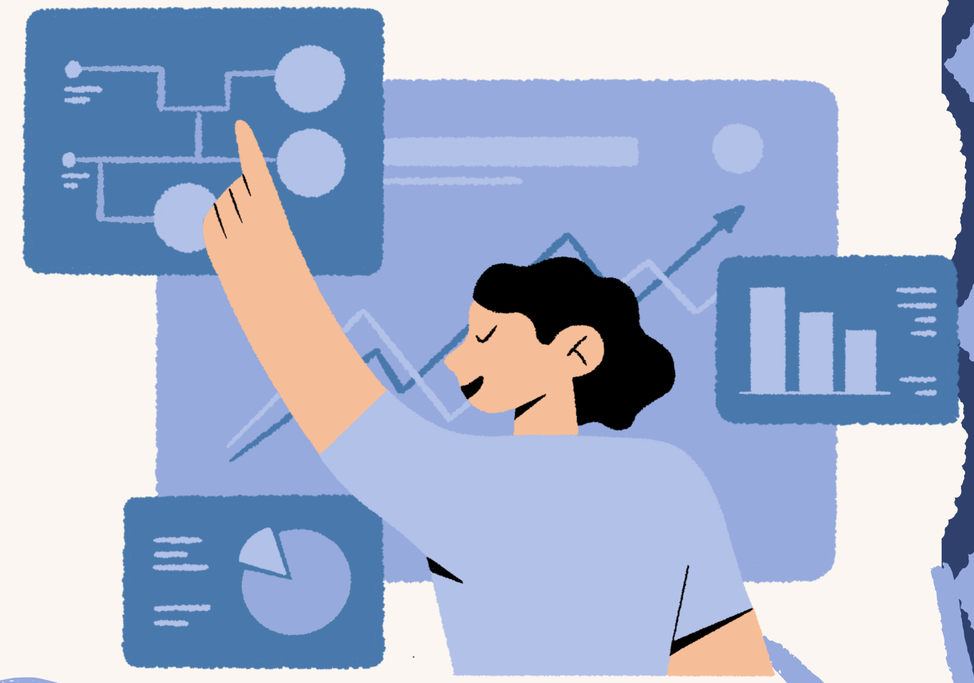
Job Title	Total Applicants
Best boy	13
Translator	12
Race relations officer	12
Sound technician, broadcasting/film/video	11
Administrator	11



WHICH MONTH WE HAVE GOT THE MOST APPLICATIONS?

```
SELECT `APPLICATION MONTH`,COUNT(*)
    AS MONTHLY_APPLICATION
    FROM RECRUITMENT_DATA
    GROUP BY `APPLICATION MONTH`
ORDER BY MONTHLY_APPLICATION DESC;
```

Application Month	Monthly_application
Jul	1047
Jun	983
May	808
Aug	162



ON WHICH METRIX WE HAVE ACCEPTED OR REJECTED THE CANDIDATES, EDUCATION AND EXPERIENCE WISE?

...EXPERIENCE WISE...

```
SELECT
    CASE
        WHEN `YEARS OF EXPERIENCE`
BETWEEN 0 AND 2 THEN "0-2 YEARS"
        WHEN `YEARS OF EXPERIENCE`
BETWEEN 3 AND 5 THEN "3-5 YEARS"
        WHEN `YEARS OF EXPERIENCE`
BETWEEN 6 AND 8 THEN "6-8 YEARS"
        WHEN `YEARS OF EXPERIENCE`
BETWEEN 9 AND 11 THEN "9-11 YEARS"
        ELSE "12+ YEARS"
    END AS EXPERIENCE_GROUP, "STATUS",
COUNT(*) AS TOTAL
    FROM RECRUITMENT_DATA
WHERE LOWER(STATUS) IN ("OFFERED", "REJECTED")
GROUP BY EXPERIENCE_GROUP, "STATUS"
ORDER BY EXPERIENCE_GROUP, TOTAL DESC;
```

Experience_Group	Status	total
0-2 Years	Rejected	88
0-2 Years	Offered	85
12+ Years	Rejected	264
12+ Years	Offered	251
3-5 Years	Offered	80
3-5 Years	Rejected	69
6-8 Years	Offered	100
6-8 Years	Rejected	73
9-11 Years	Rejected	100
9-11 Years	Offered	94

....EDUCATIONAL WISE....

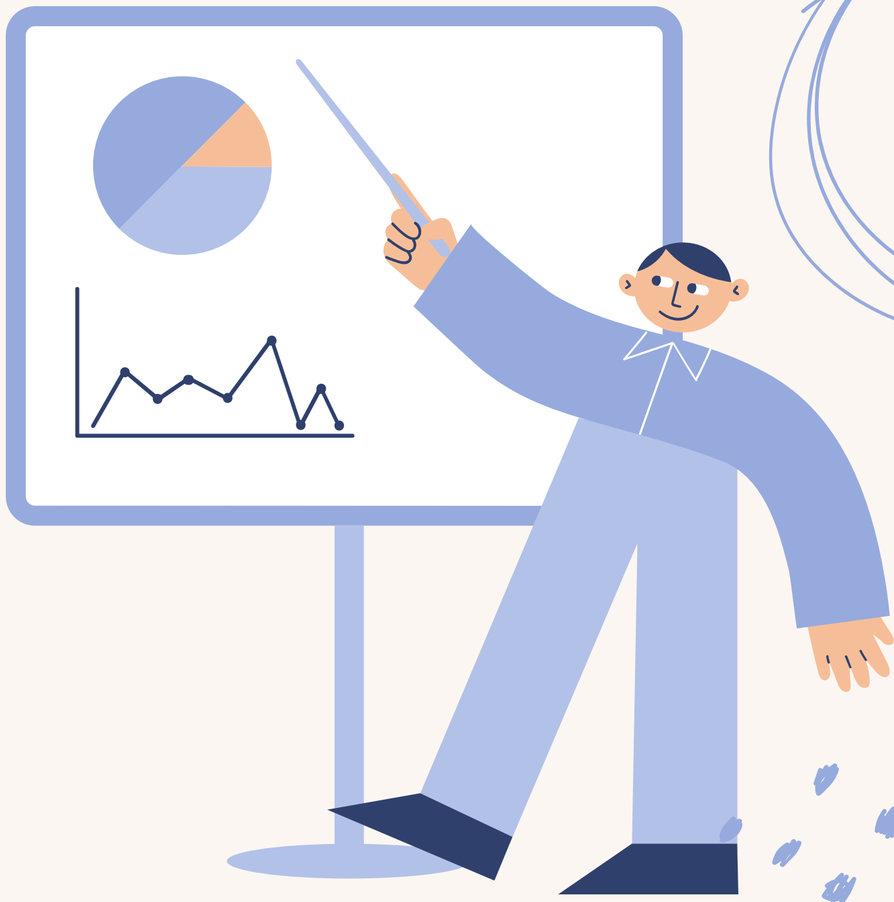
```
SELECT `EDUCATION LEVEL`,`STATUS`, COUNT(*)
    AS TOTAL
    FROM RECRUITMENT_DATA
WHERE LOWER(`STATUS`) IN ("OFFERED", "REJECTED")
    GROUP BY `EDUCATIONAL LEVEL`,`STATUS`
    ORDER BY `EDUCATIONAL LEVEL`;
```

Education Level	Status	total
Bachelor's Degree	Offered	157
Bachelor's Degree	Rejected	159
High School	Offered	141
High School	Rejected	152
Master's Degree	Offered	164
Master's Degree	Rejected	137
PhD	Offered	148
PhD	Rejected	146

HOW MANY APPLICANTS ARE ENTRY LEVEL, MID LEVEL AND SENIOR LEVEL?

```
SELECT
     CASE
        WHEN `YEARS OF EXPERIENCE` < 2
THEN "ENTRY LEVEL"
        WHEN `YEARS OF EXPERIENCE`
BETWEEN 2 AND 5 THEN "MID LEVEL`
        ELSE "SENIOR LEVEL"
END AS EXPERIENCE_CAREGIRY,
COUNT(*) AS TOTAL
 FROM RECRUITMENT_DATA
GROUP BY EXPERIENCE_CATEGORY;
```

	Experience_Category	total
▶	Senoir level	2153
	Entry level	284
	Mid level	563



WHICH GENDER SUBMITTED MORE APPLICATIONS, AND WHICH GENDER RECEIVED MORE OFFERS?

```
SELECT GENDER,COUNT(*)
AS GENDER_ANALYSIS
FROM RECRUITMENT_DATA
GROUP BY GENDER
ORDER BY GENDER_ANALYSIS;
```

Gender	Gender_analysis
Female	967
Other	1003
Male	1030

```
SELECT GENDER, `STATUS`, COUNT(*)
AS TOTAL
FROM RECRUITMENT_DATA
WHERE LOWER(`STATUS`) IN ("OFFERED","REJECTED")
GROUP BY GENDER, `STATUS`
ORDER BY GENDER, TOTAL DESC;
```

Gender	Status	Total
Female	Offered	201
Female	Rejected	185
Male	Offered	217
Male	Rejected	212
Other	Rejected	197
Other	Offered	192

KEY POINTS

01 Most applications were submitted for the "Best Boy" and least for the "Administrative" roles.

02 July recorded the highest number of job applications.

03 Candidates with 12+ years of experience appeared most frequently in selection and rejection outcomes.

04 Senior-level candidates submitted the highest number of applications overall.

05 Male applicants applied more than female applicants and Average expected salary of applicants is ₹65,876.06.

CONCLUSIONS

The analysis of the recruitment dataset revealed meaningful patterns in applicant behavior and hiring outcomes. Application volume was highest in specific months and concentrated around certain job roles, showing clear demand trends. Demographic and experience-based insights highlighted that senior-level applicants and candidates with 12+ years of experience form the largest portion of the applicant pool. Gender distribution also showed a noticeable difference, with males applying more frequently and other distribution is also good but the selection rate is low we should focus on others as well female applicants has low distribution. Overall, these findings help the company understand who is applying, when application peaks occur, and which candidate groups require closer attention. Such insights can support smarter hiring strategies, improved recruitment planning, and more data-driven decision-making

THANK YOU VERY MUCH!

KAJAL BHADANI