HR ANALYSIS

INTRODUCTION

This project revolves around analyzing a comprehensive HR dataset designed for teaching purposes by Dr. Carla Patalanoand a colleague at New England College of Business. The dataset is synthetic but reflects real-world HR challenges, providing valuable insights for data analysis and visualization. It includes various attributes such as employee names , demographic details, employment history, salaries, and performance scores. The goal is to explore HR metrics such as employee engagement, diversity, recruitment sources, and performance trends, leveraging tools like Tableau, R, and Python. This analysis will help address key HR challenges, such as predicting employee turnover, assessing diversity profiles, and identifying pay equity issues, ultimately enhancing decision-making in HR management.

OBJECTIVE

- **Analyze employee performance** and identify any relationships between performance scores and managers or departments.
- **Assess diversity profiles** within the organization and explore the effectiveness of recruitment sources in promoting diversity.
- **Predict employee turnover**, helping the organization anticipate and mitigate attrition.
- **Evaluate pay equity** across different departments and positions, ensuring fairness in compensation.
- **Visualize key HR metrics** using tools like Tableau, enabling HR professionals to understand trends and areas for improvement.

MAIN KPIS

- 1. Employee Performance Score
- 2. Employee Engagement Score
- 3. Employee Satisfaction Score
- 4. Absenteeism Rate
- 5. Employee Turnover Rate
- 6. Recruitment Source Effectiveness
- 7. Diversity Index
- 8. Pay Equity Analysis
- 9. Days Late in Last 30 Days
- 10. Tenure Distribution
- 11. Reasons for Termination
- 12. Department-wise Attrition Rate

TABLEAU

The HR dataset developed by Dr. Carla Patalano serves as an essential learning tool for human resources professionals to build their data visualization and analytics skills. Tableau Desktop is an ideal platform to analyze this dataset due to its intuitive interface and powerful visualization capabilities.

HR ANALYSIS

Department: (All)

GENDER: (All), Female, Male

TOTAL COUNT OF EMPLOYEE

311

AVERAGE SALARY

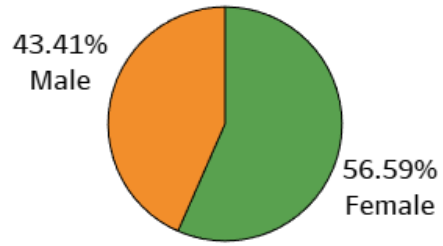
69,021

AVERAGE TENURE

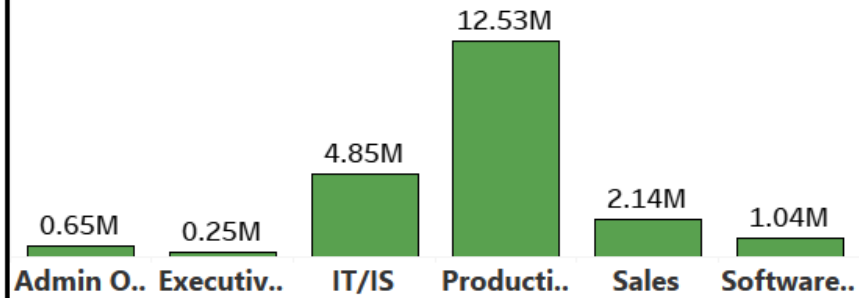
8.293

COUNT OF EMPLOYEE BY AGE GROUP

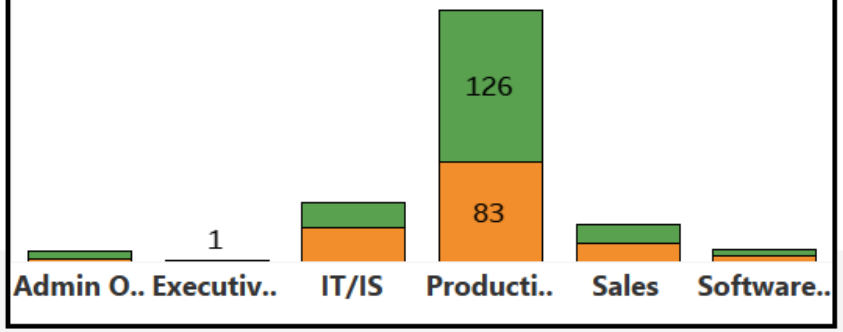
GENDER COUNT



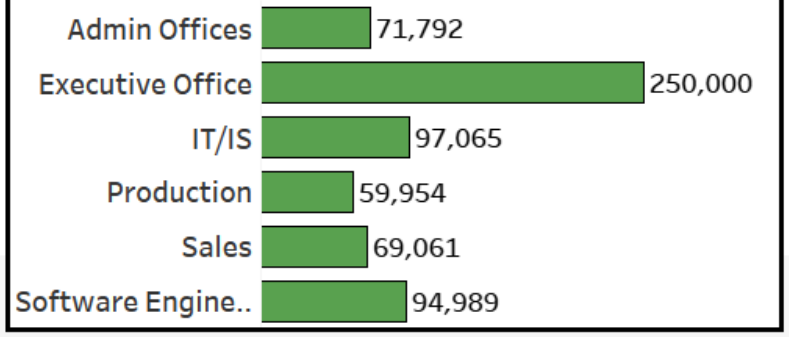
SUM OF SALARY BY DEPARTMENT



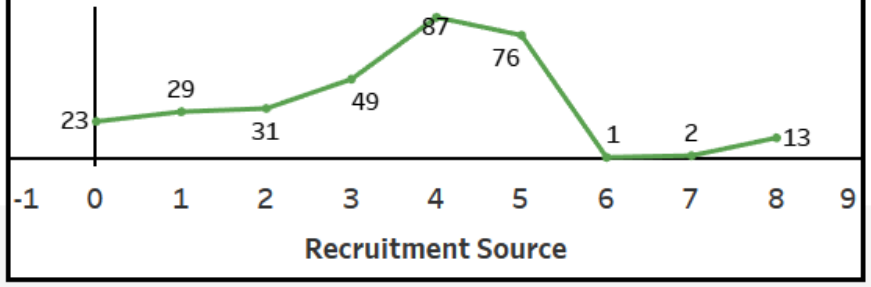
COUNT OF GENDER BY DEPARTMENT



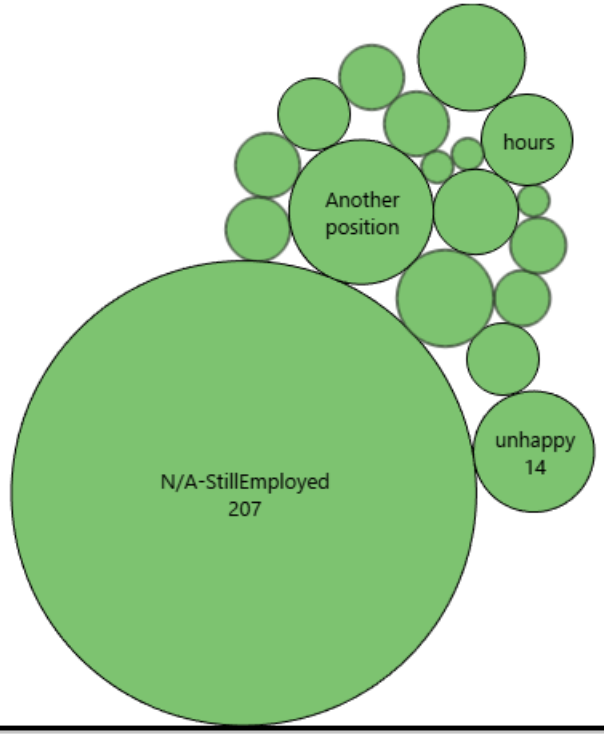
AVERAGE SALARY BY DEPARTMENT



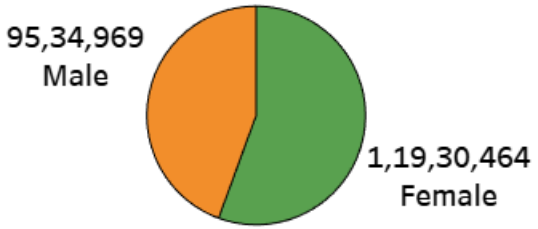
COUNT OF RECRUITMENT SOURCE BY PERFORMANCE SCORE



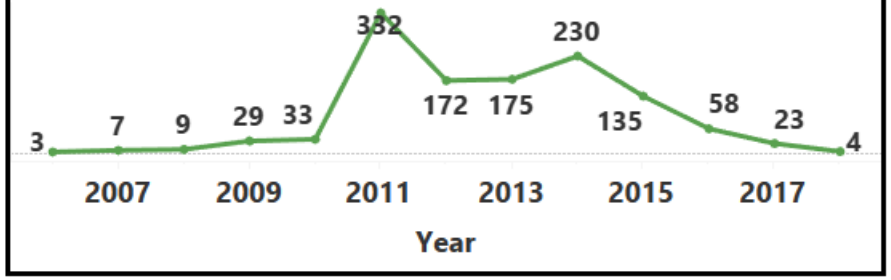
COUNT OF DEPARTMENT BY TERMINATION REASON



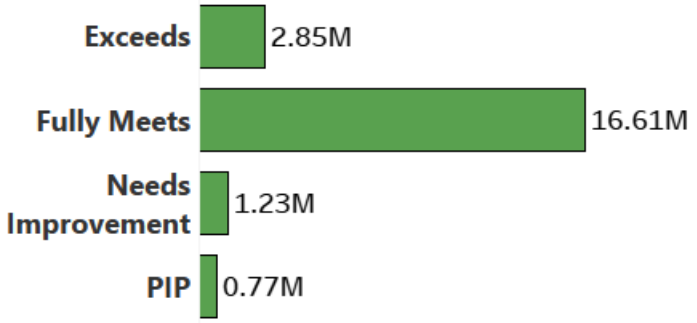
SUM OF SALARY BY GENDER



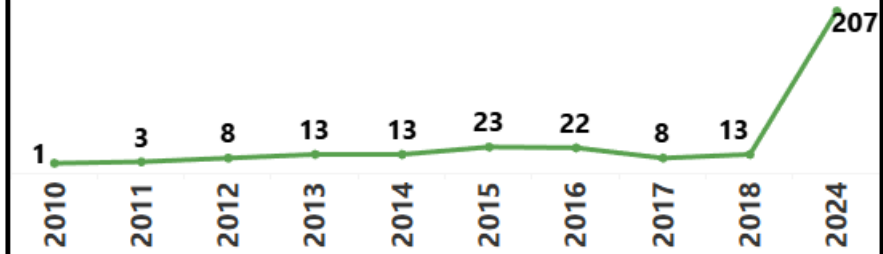
SUM OF EMPLOYEE SATISFACTION BY YEAR



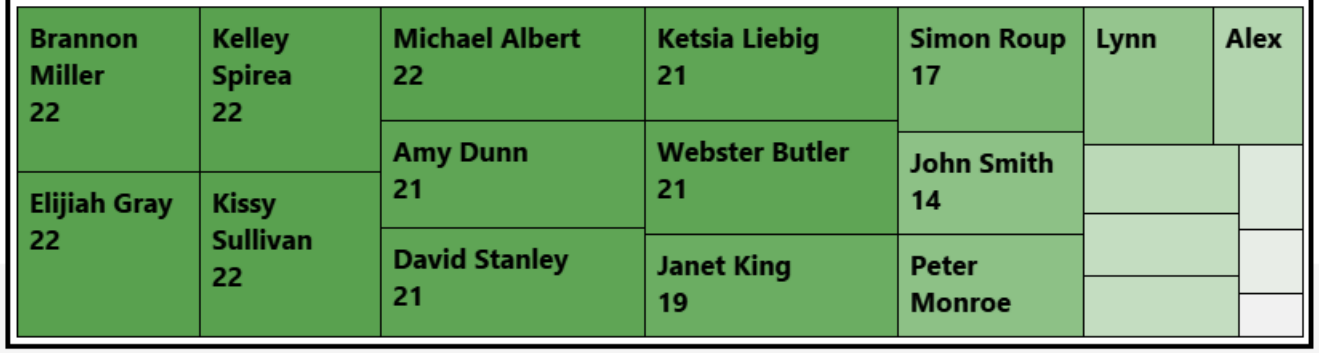
SUM OF SALARY BY PERFORMANCE



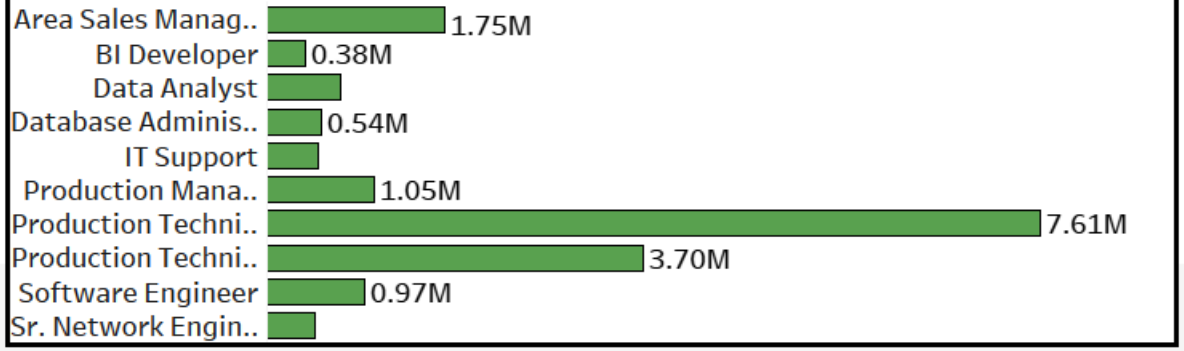
COUNT OF TERMINATED EMPLOYEE BY YEAR



COUNT OF PERFORMANCE SCORE BY MANAGER NAME



SUM OF SALARY BY POSITION



PYTHON

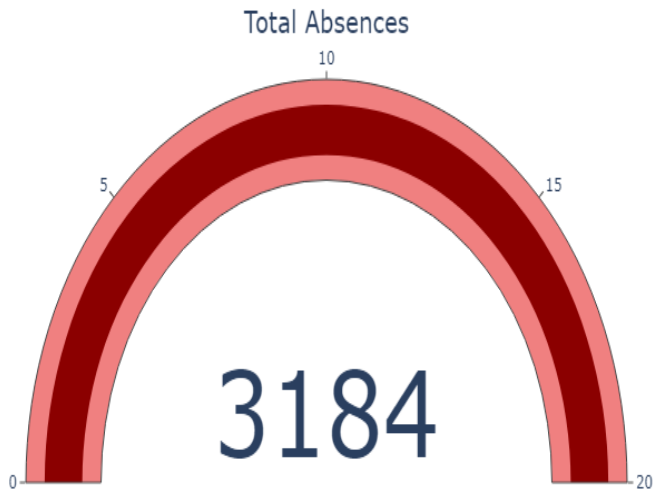
Python is an excellent tool for analyzing the HR dataset created by Dr. Carla Patalano due to its versatility and powerful libraries for data analysis and visualization. By leveraging Python, HR professionals and data analysts can explore the dataset programmatically, conduct in-depth analysis, and uncover meaningful insights to support data-driven decisions.

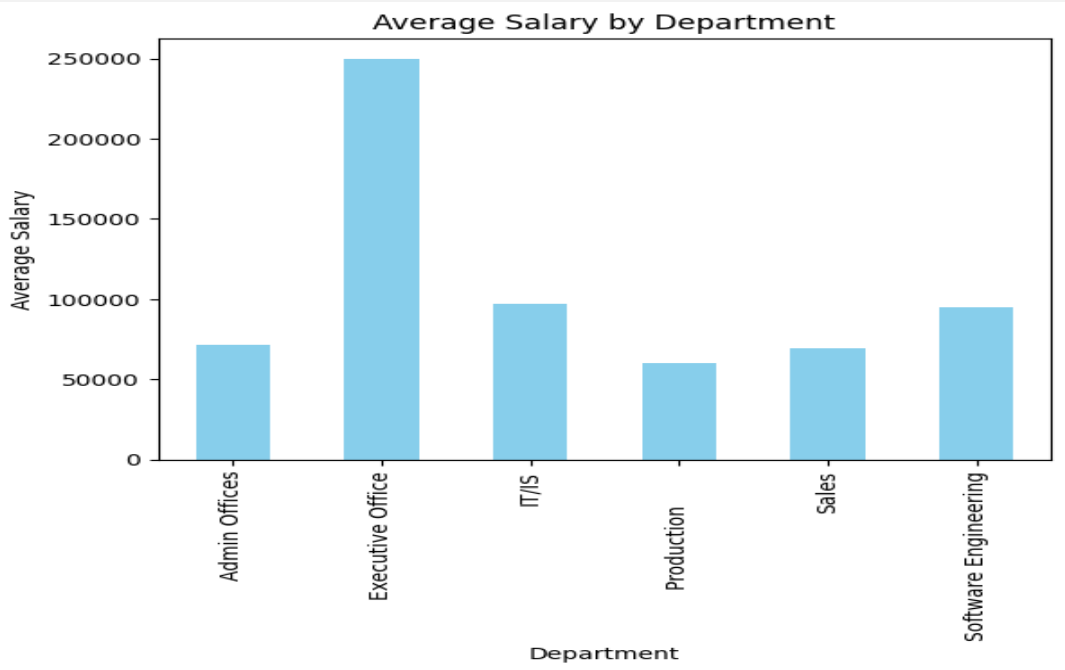
Employee Engagement Score

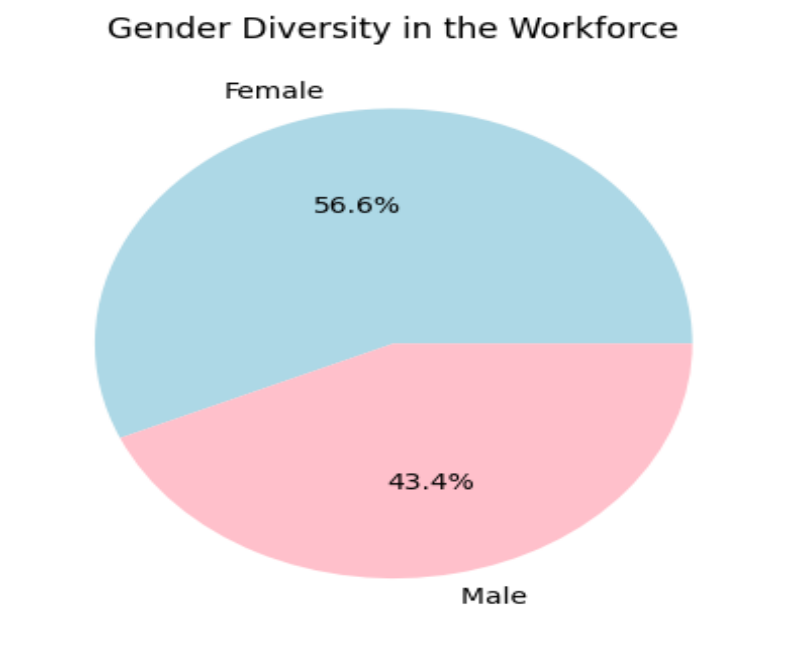
Average Engagement Score
4.11

Average Performance Score

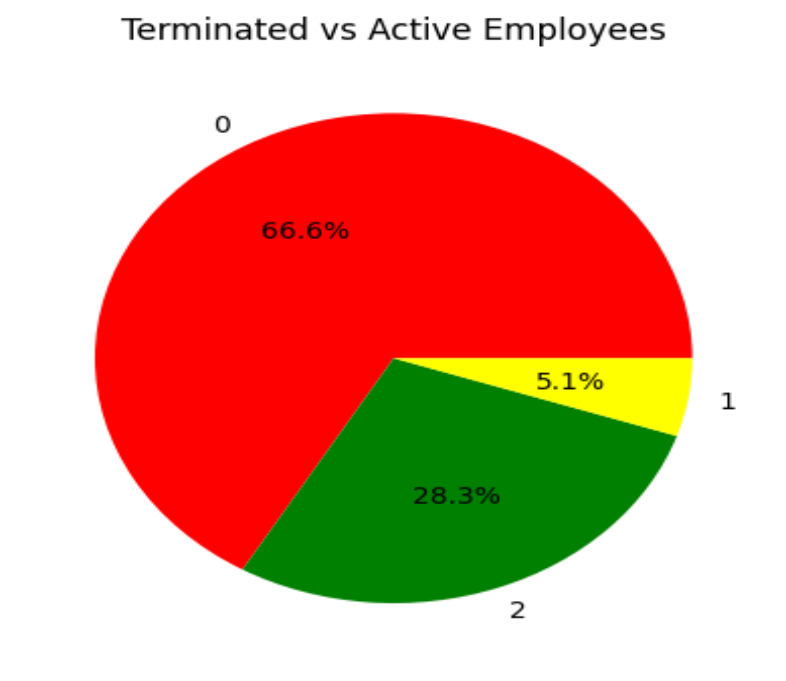
Average Performance Score
1.98

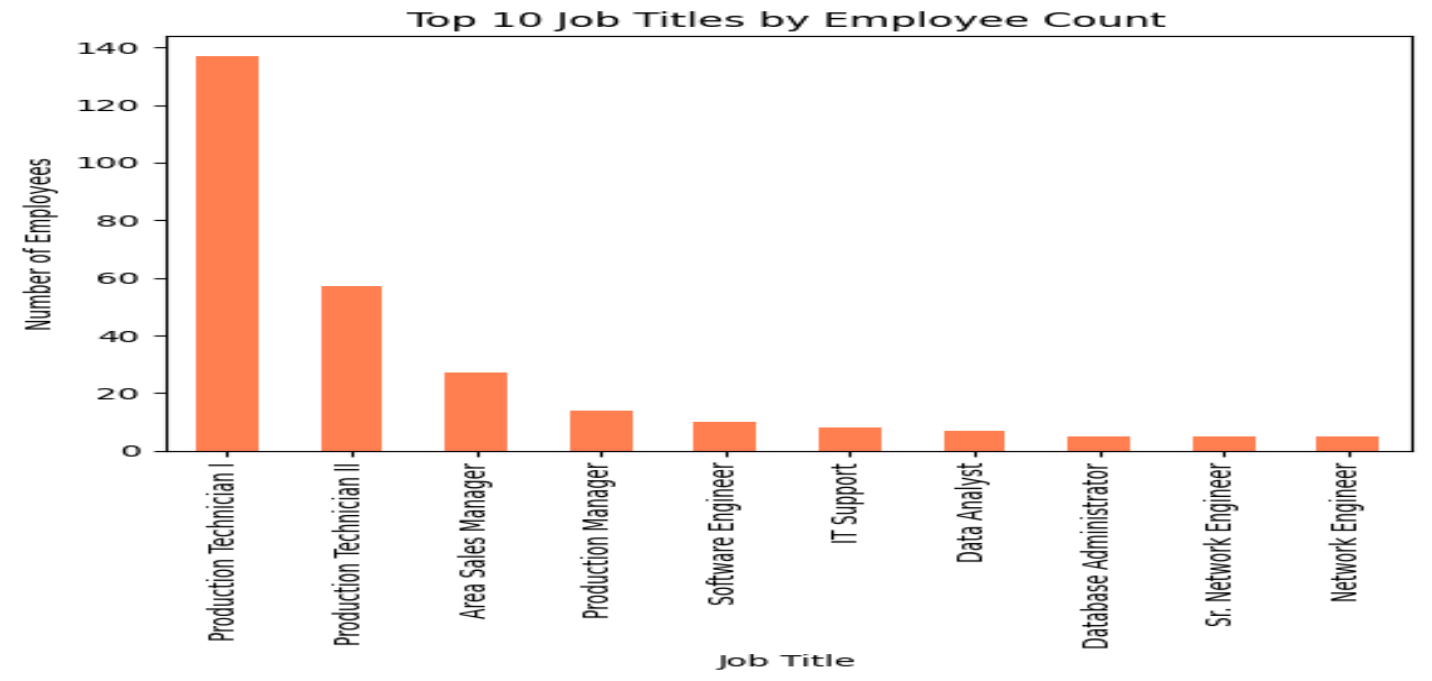


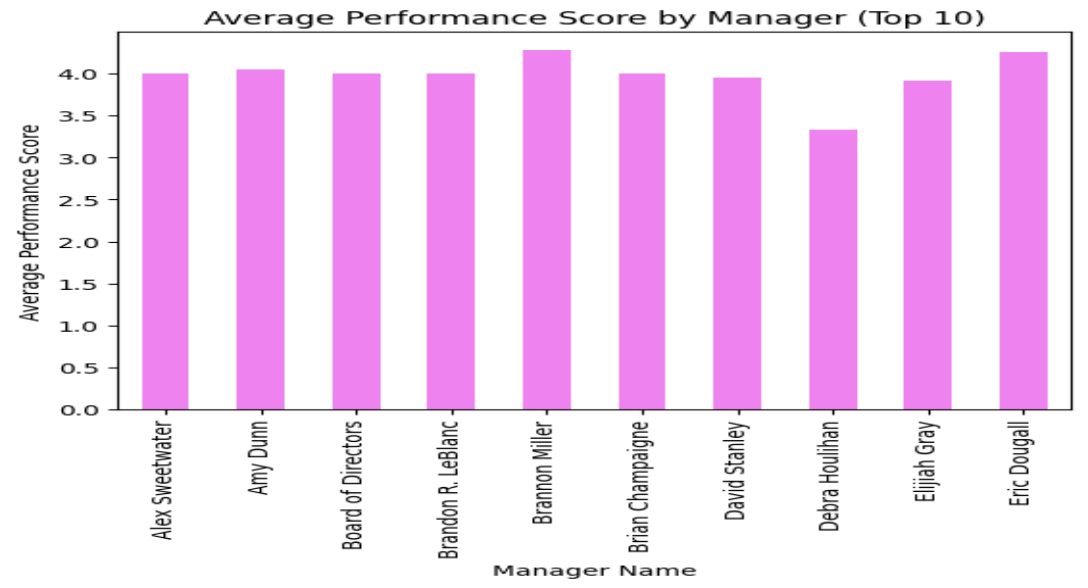


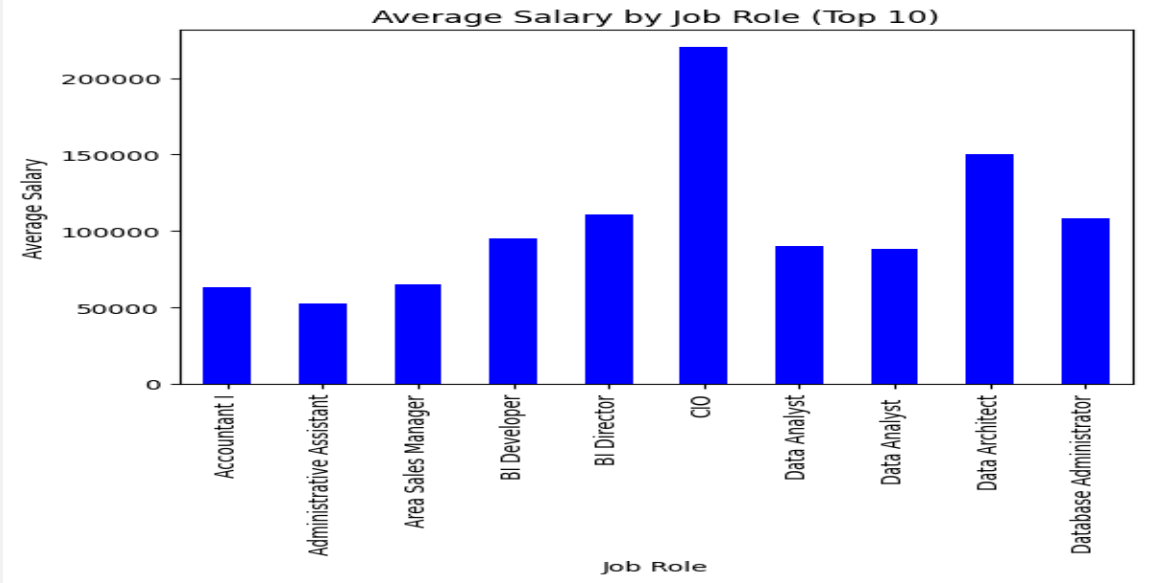

Gender Diversity in the Workforce
Female
56.6%
43.4%
Male

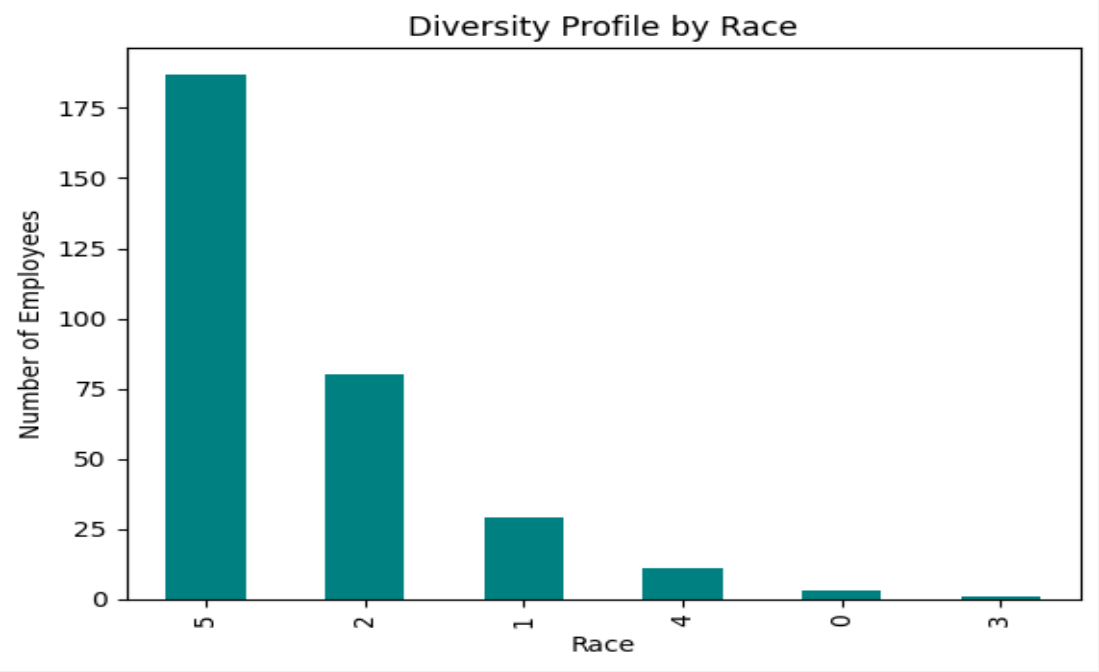

Employee Satisfaction by Department
Average Satisfaction
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Admin Offices
Executive Office
IT/IS
Production
Sales
Software Engineering
Department

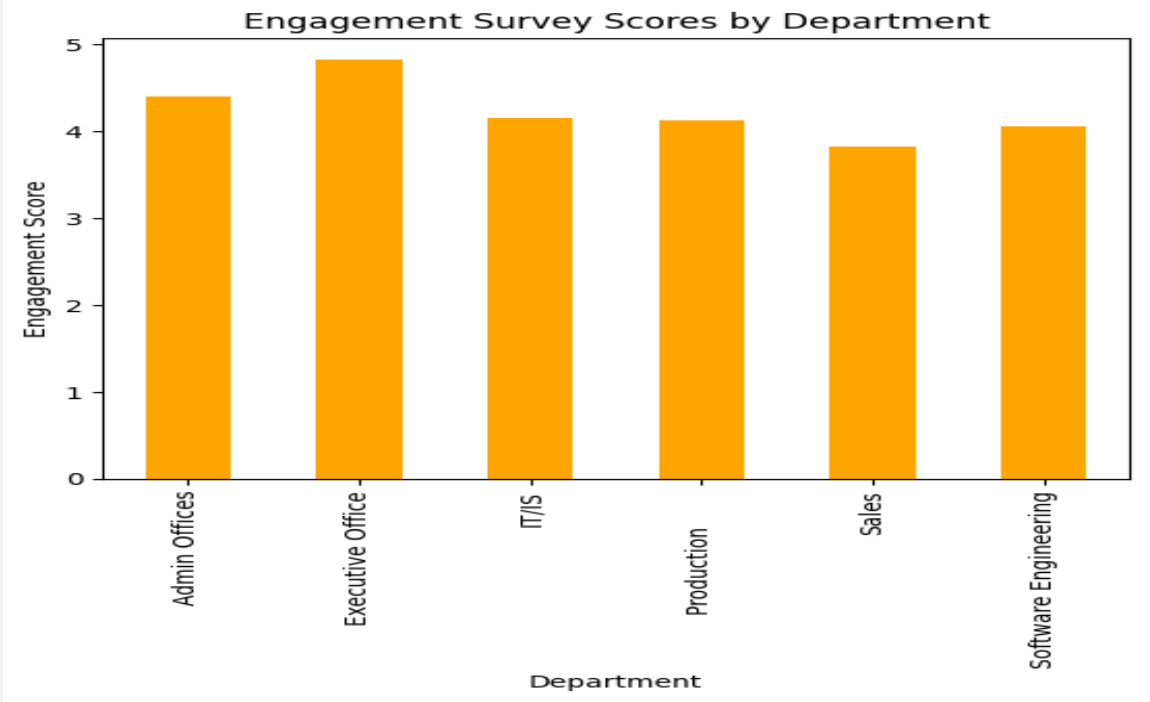

Terminated vs Active Employees
0
66.6%
5.1%
1
28.3%
2


Top 10 Job Titles by Employee Count
Number of Employees
0
20
40
60
80
100
120
140
Production Technician I
Production Technician II
Area Sales Manager
Production Manager
Software Engineer
IT Support
Data Analyst
Database Administrator
Sr. Network Engineer
Network Engineer
Job Title


Average Performance Score by Manager (Top 10)
Average Performance Score
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Alex Sweetwater
Amy Dunn
Board of Directors
Brandon R. LeBlanc
Brannon Miller
Brian Champaigne
David Stanley
Debra Houlihan
Elijiah Gray
Eric Dougall
Manager Name


Average Salary by Job Role (Top 10)
Average Salary
0
50000
100000
150000
200000
Accountant I
Administrative Assistant
Area Sales Manager
BI Developer
BI Director
CIO
Data Analyst
Data Analyst
Data Architect
Database Administrator
Job Role


Diversity Profile by Race
Number of Employees
0
25
50
75
100
125
150
175
5
2
1
4
0
3
Race


Engagement Survey Scores by Department
Engagement Score
0
1
2
3
4
5
Admin Offices
Executive Office
IT/IS
Production
Sales
Software Engineering
Department

CONCLUSION

The HR dataset created by Dr. Carla Patalano and her colleague provides a valuable tool for teaching HR professionals how to leverage data for strategic decision-making. By using Tableau, Python, or R for visualizations and analysis, key insights into employee performance, diversity, pay equity, and turnover can be uncovered. These insights enable organizations to enhance recruitment strategies, address pay gaps, boost employee engagement, and predict potential attrition. As more data is added and refined, the dataset will continue to serve as a practical resource for HR analytics education.

VISIT FOR DETAILED PROJECT

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