

# Employee Performance Analysis Report

## Project Objective

Analyze employee performance data using statistical methods and Python programming to understand promotion trends.

## Theory Summary

The project covers statistical concepts such as mean, median, mode, variance, skewness, probability, Bayes theorem, and PCA.

## Practical Analysis

Python was used to compute central tendency, probability of promotion, contingency tables, distribution plots, and vector operations.

## Key Insights

Employees with higher performance scores show increased promotion probability. Salary distribution indicates skewness, and performance scores approximate a normal distribution.

## Conclusion

Statistical analysis combined with visualization helps organizations make better HR decisions.

## Important Findings

- 1 Performance Score > 80 increases promotion chances.
- 2 Projects completed vary moderately across employees.
- 3 Department impacts promotion outcomes.
- 4 Gaussian distribution observed in performance scores.