

# CSV Profile Report

## AI-Driven Insights

### Key Findings:

- Data Quality Assessment:

Overall data completeness is 95.3%, with 1,233 missing values across 1 columns.

- Dataset Dimensions and Structure:

The dataset contains 1,470 records with 18 attributes, providing a comprehensive view of the data.

- Primary Key Analysis:

Identified 1 potential primary key(s): Employee Number (1,470 unique values). These columns have unique values for each record and can be used as reliable identifiers.

- Strong positive correlation (0.77) between Percent Salary Hike and Performance Rating:

This indicates that as Percent Salary Hike increases, Performance Rating tends to increase proportionally.

- Trend Analysis for Employee Number:

Shows a increasing trend with normal distribution. Mean value is 1024.87 with a standard deviation of 602.02.

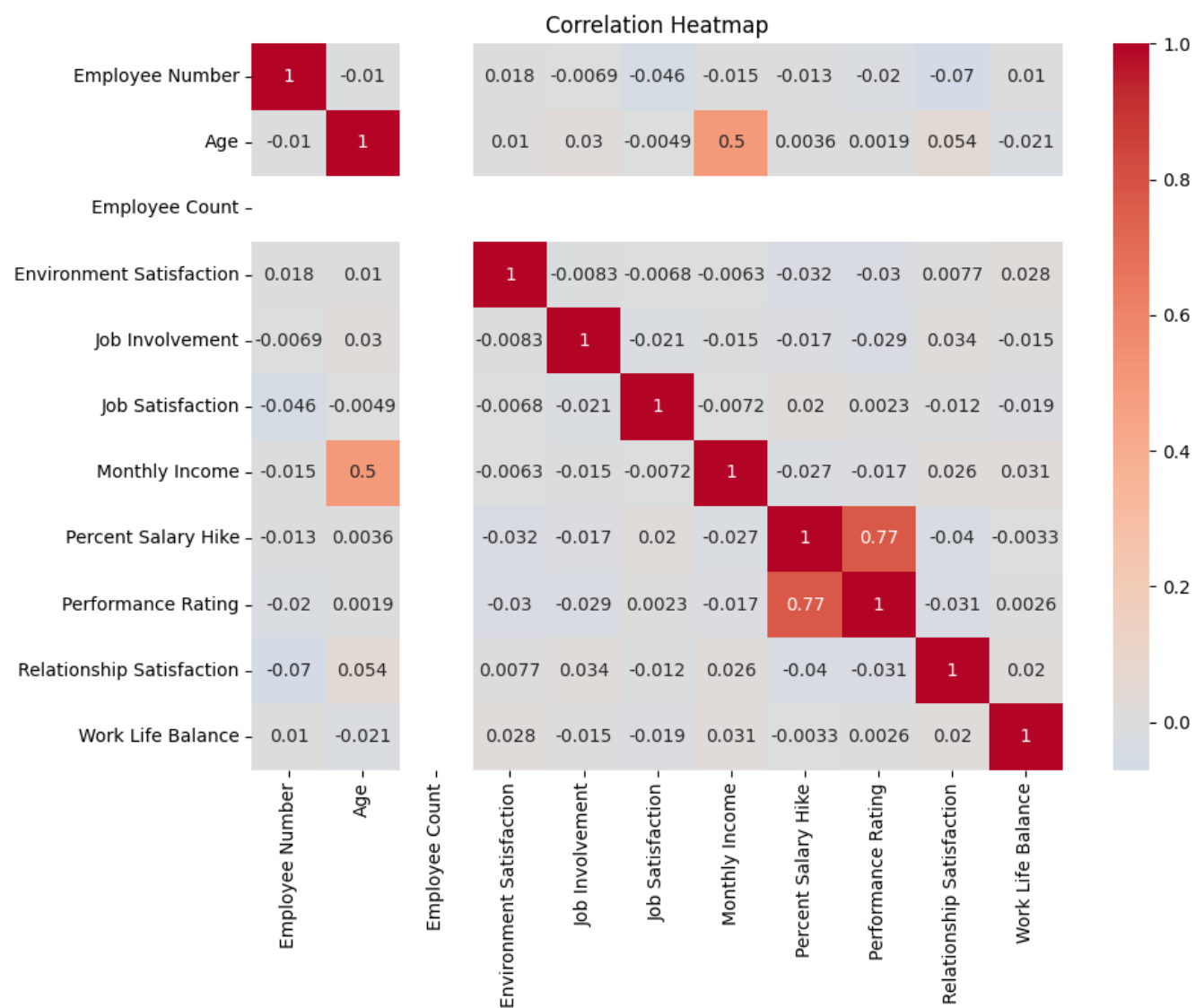
- Data Type Distribution:

The dataset contains 11 numeric columns and 7 categorical columns, suggesting a predominantly numeric dataset.

- Outlier Detection:

Found potential outliers in the following numeric columns: Monthly Income (114 outliers), Performance Rating (226 outliers). These may require further investigation or special handling.

Correlation Analysis:



**File Overview**

Filename: HR\_Attrition\_Main\_HR\_Attrition.csv

File Size: 279.5 kB

Rows: 1470

Columns: 18

Missing Cells: 1233

Duplicate Rows: 0

**Column Analysis**

Column: Attrition

Type: object

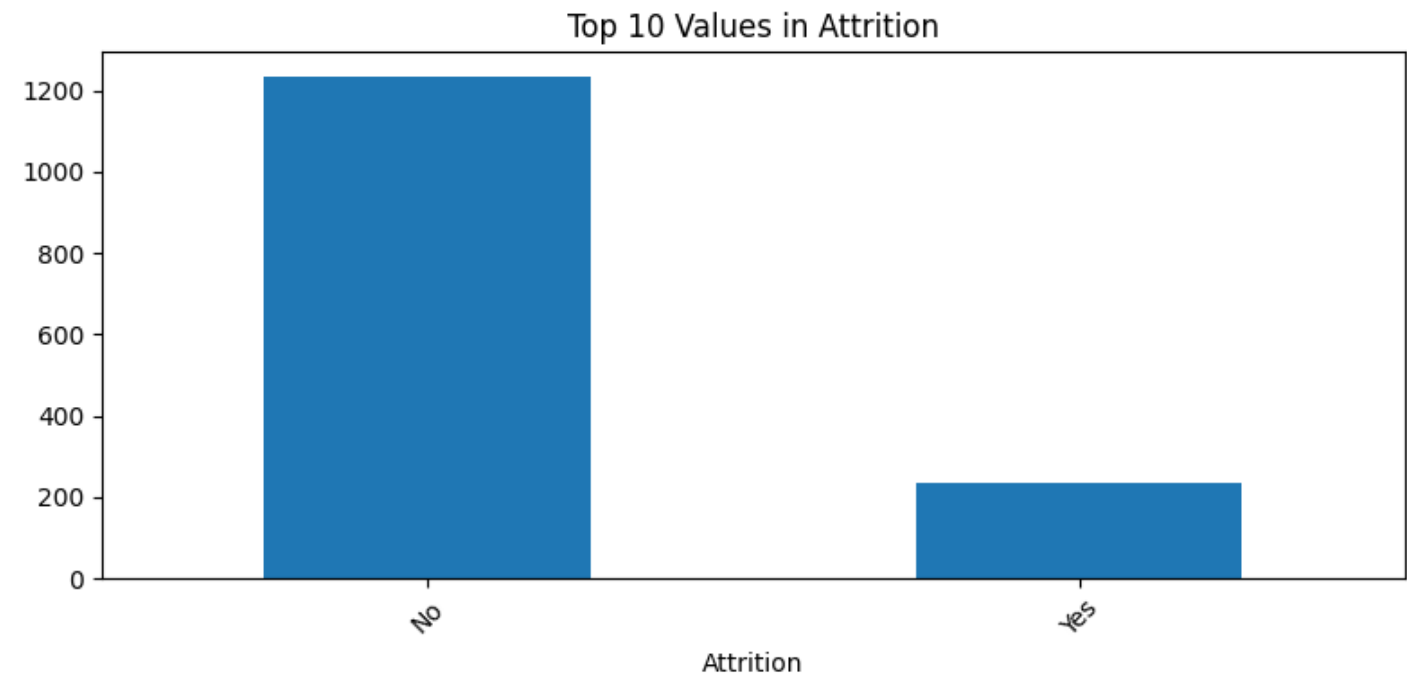
Missing Values: 0

Unique Values: 2

Top Values:

No: 1233

Yes: 237



Column: Attrition Date

Type: object

Missing Values: 1233

Unique Values: 116

Top Values:

4/30/22: 8

4/17/22: 7

4/4/22: 7

1/16/22: 6

4/29/22: 6

3/11/22: 5

2/11/22: 5

3/4/22: 5

4/13/22: 5

4/25/22: 5

Column: Department

Type: object

Missing Values: 0

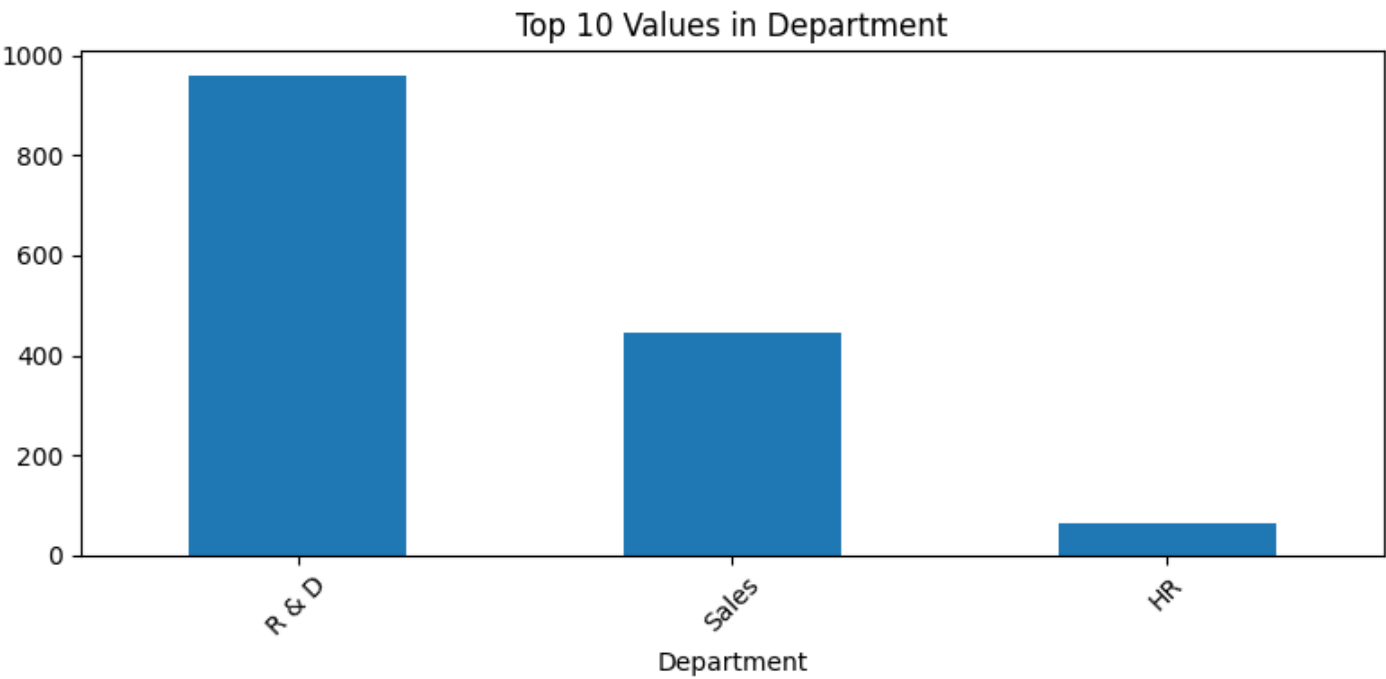
Unique Values: 3

Top Values:

R & D: 961

Sales: 446

HR: 63



Column: Education

Type: object

Missing Values: 0

Unique Values: 5

Top Values:

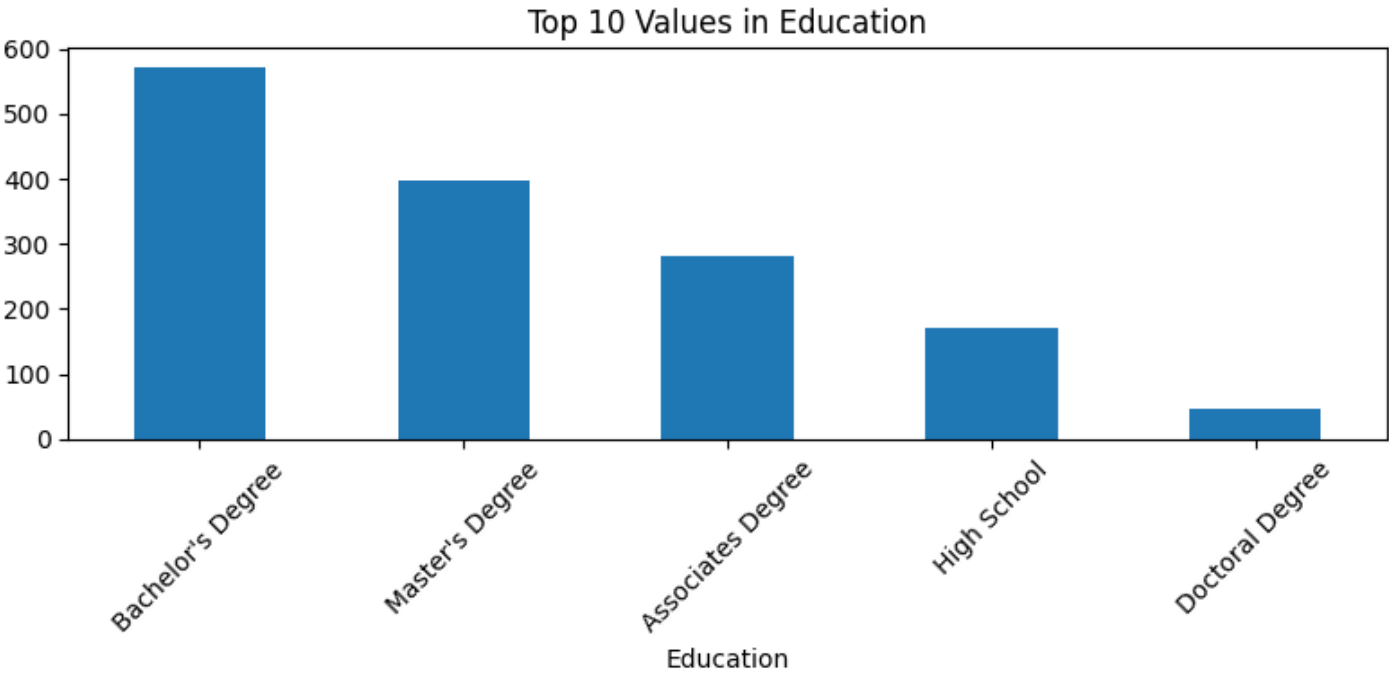
Bachelor's Degree: 572

Master's Degree: 398

Associates Degree: 282

High School: 170

Doctoral Degree: 48





Column: Education Field

Type: object

Missing Values: 0

Unique Values: 6

Top Values:

Life Sciences: 606

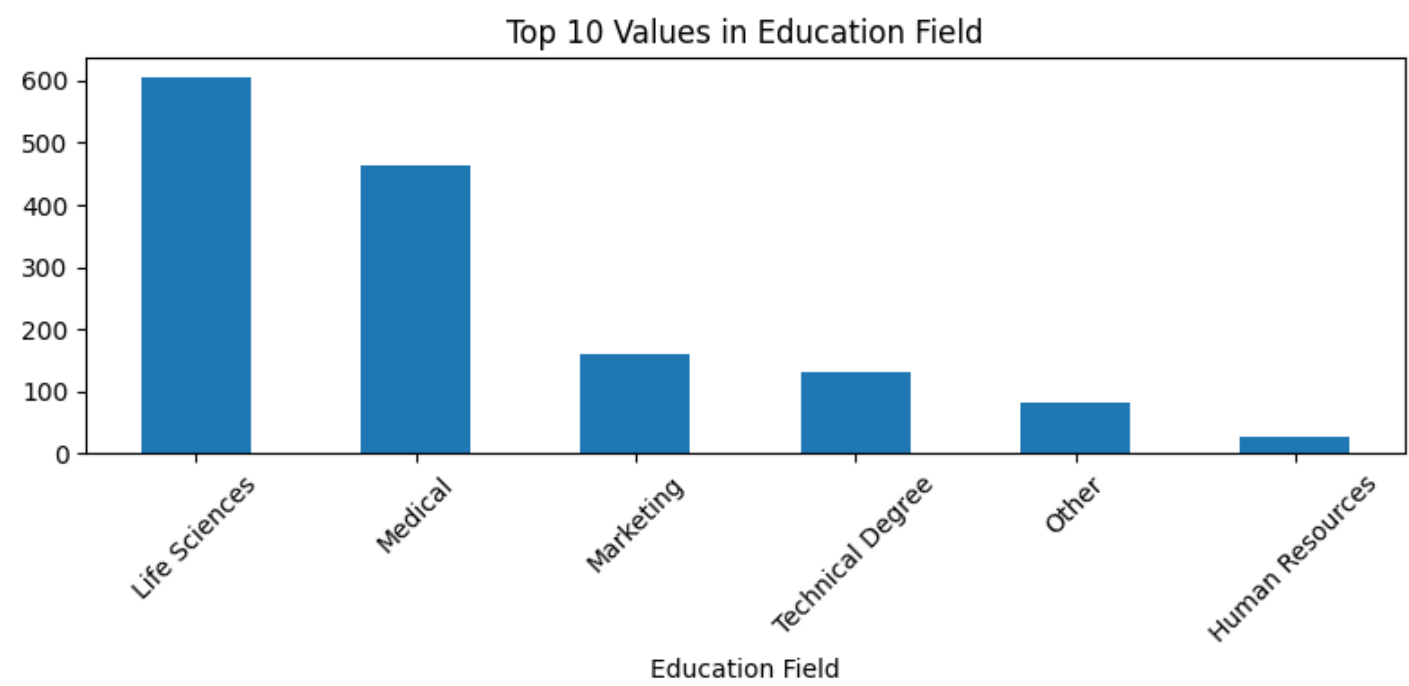
Medical: 464

Marketing: 159

Technical Degree: 132

Other: 82

Human Resources: 27



Column: Employee Number

Potential Primary Key

Type: int64

Missing Values: 0

Unique Values: 1470

Mean: 1024.87

Standard Deviation: 602.02

Min: 1

Max: 2068

25th Percentile: 491.25

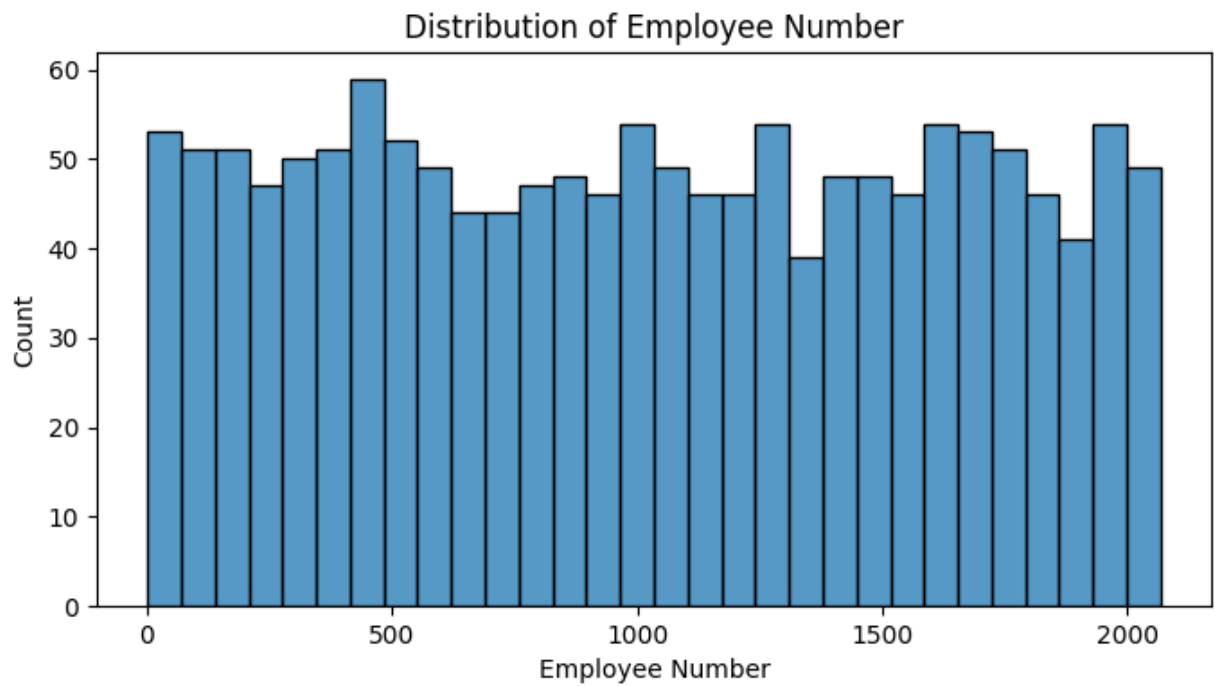
Median: 1020.50

75th Percentile: 1555.75

Trend Analysis:

Trend: Increasing

Distribution: Normal



Column: Gender

Type: object

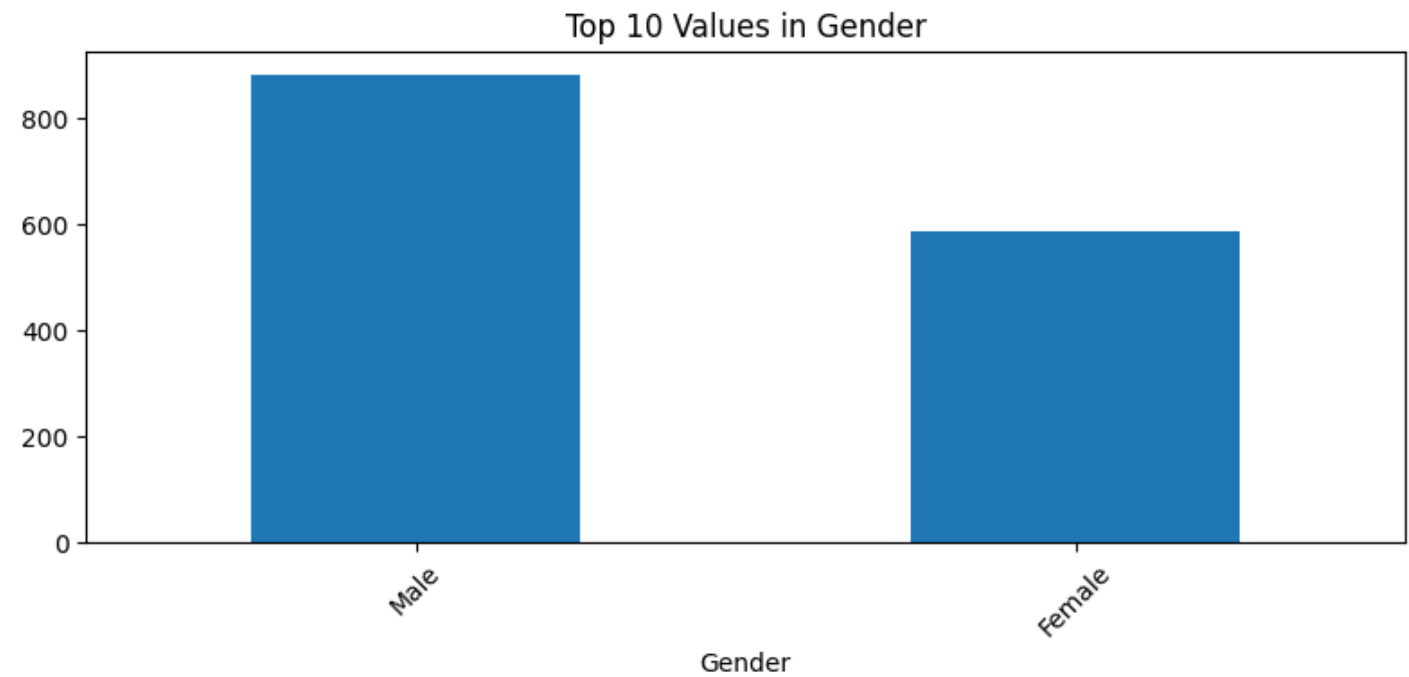
Missing Values: 0

Unique Values: 2

Top Values:

Male: 882

Female: 588



Column: Job Role

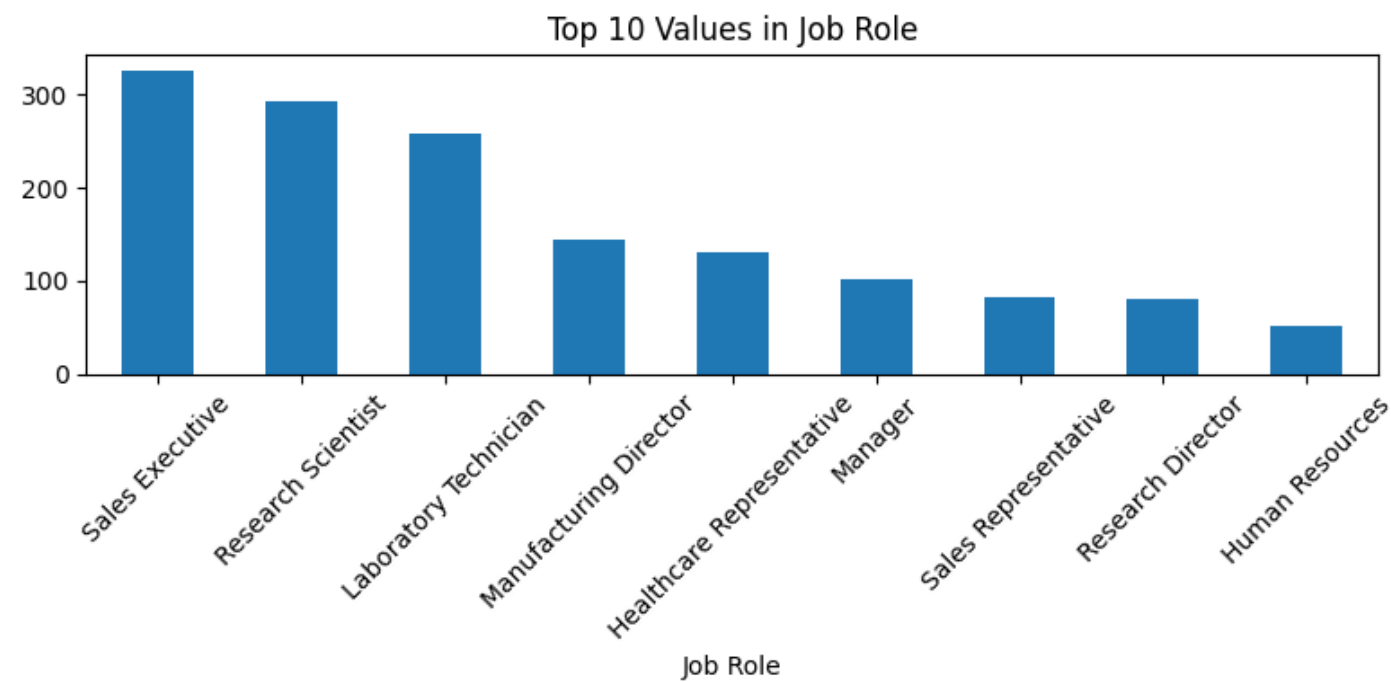
Type: object

Missing Values: 0

Unique Values: 9

Top Values:

- Sales Executive: 326
- Research Scientist: 292
- Laboratory Technician: 259
- Manufacturing Director: 145
- Healthcare Representative: 131
- Manager: 102
- Sales Representative: 83
- Research Director: 80
- Human Resources: 52



Column: Age

Type: int64

Missing Values: 0

Unique Values: 43

Mean: 36.92

Standard Deviation: 9.14

Min: 18

Max: 60

25th Percentile: 30.00

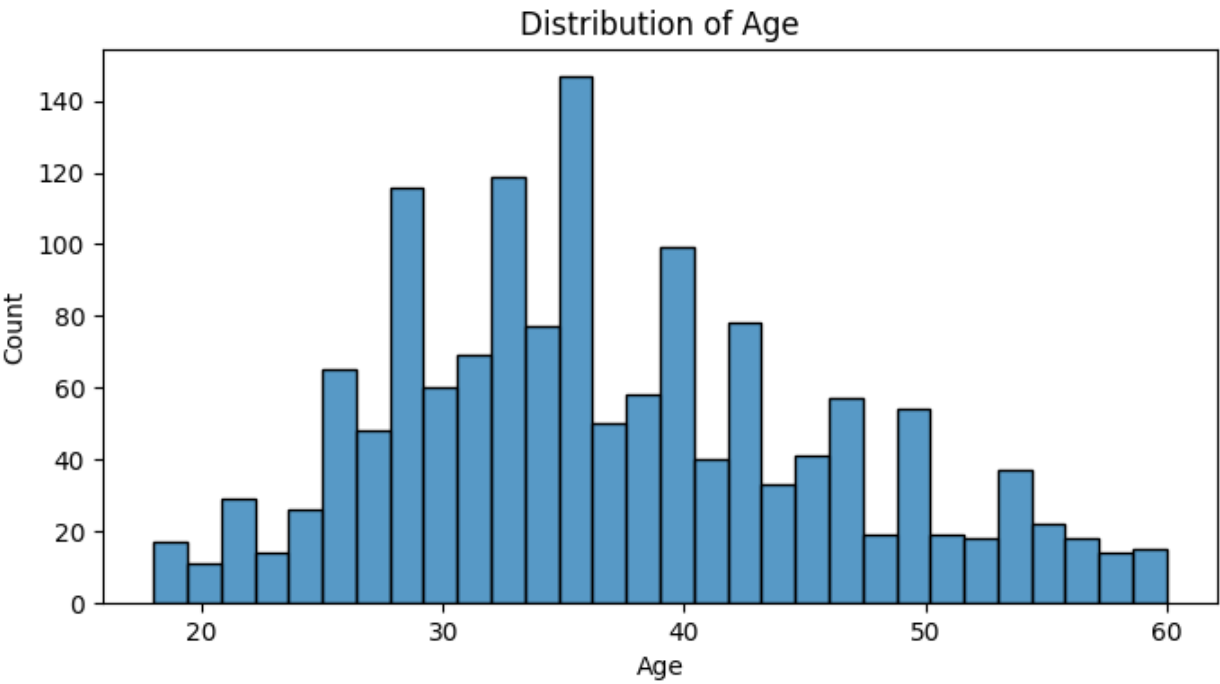
Median: 36.00

75th Percentile: 43.00

Trend Analysis:

Trend: Stable

Distribution: Normal



Column: Employee Count

Type: int64

Missing Values: 0

Unique Values: 1

Mean: 1.00

Standard Deviation: 0.00

Min: 1

Max: 1

25th Percentile: 1.00

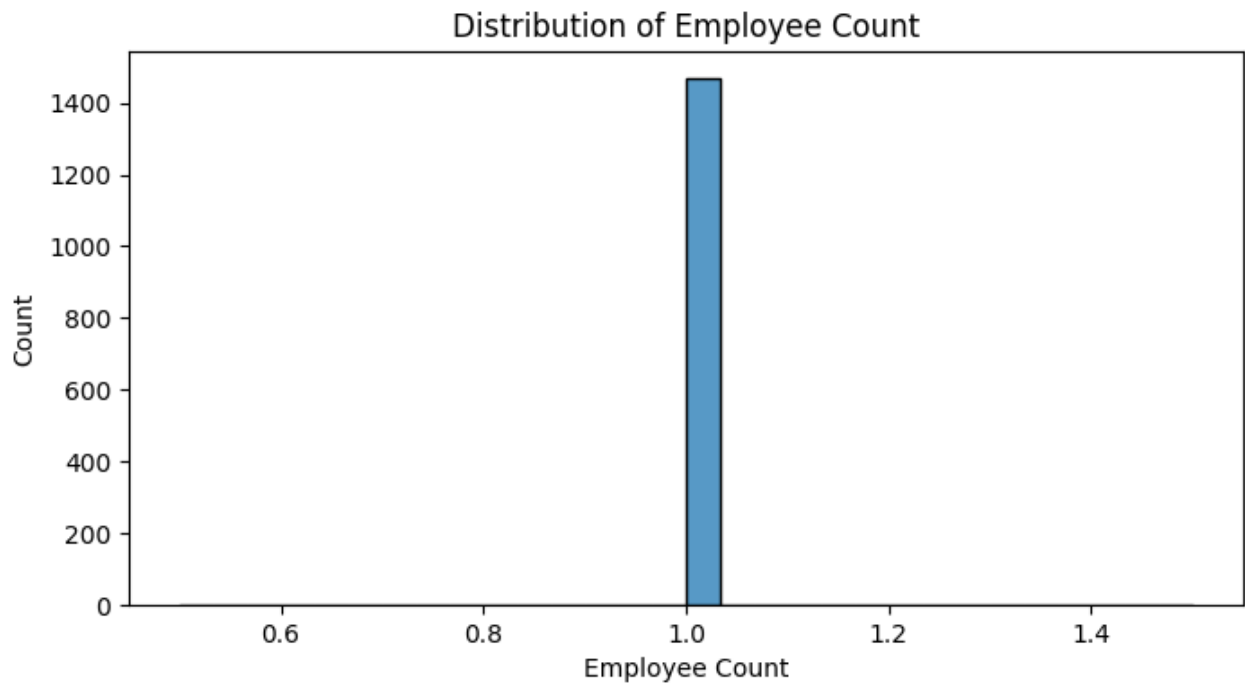
Median: 1.00

75th Percentile: 1.00

Trend Analysis:

Trend: Stable

Distribution: Normal



Column: Environment Satisfaction

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.72

Standard Deviation: 1.09

Min: 1

Max: 4

25th Percentile: 2.00

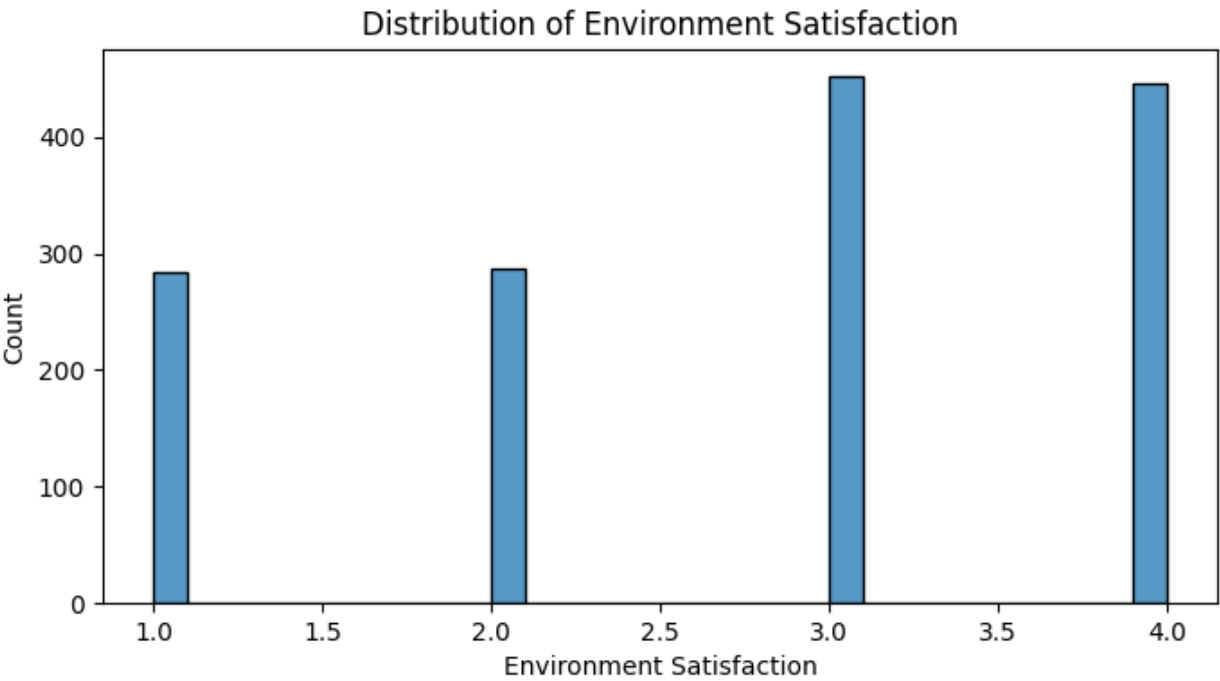
Median: 3.00

75th Percentile: 4.00

Trend Analysis:

Trend: Stable

Distribution: Normal



Column: Job Involvement

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.73

Standard Deviation: 0.71

Min: 1

Max: 4

25th Percentile: 2.00

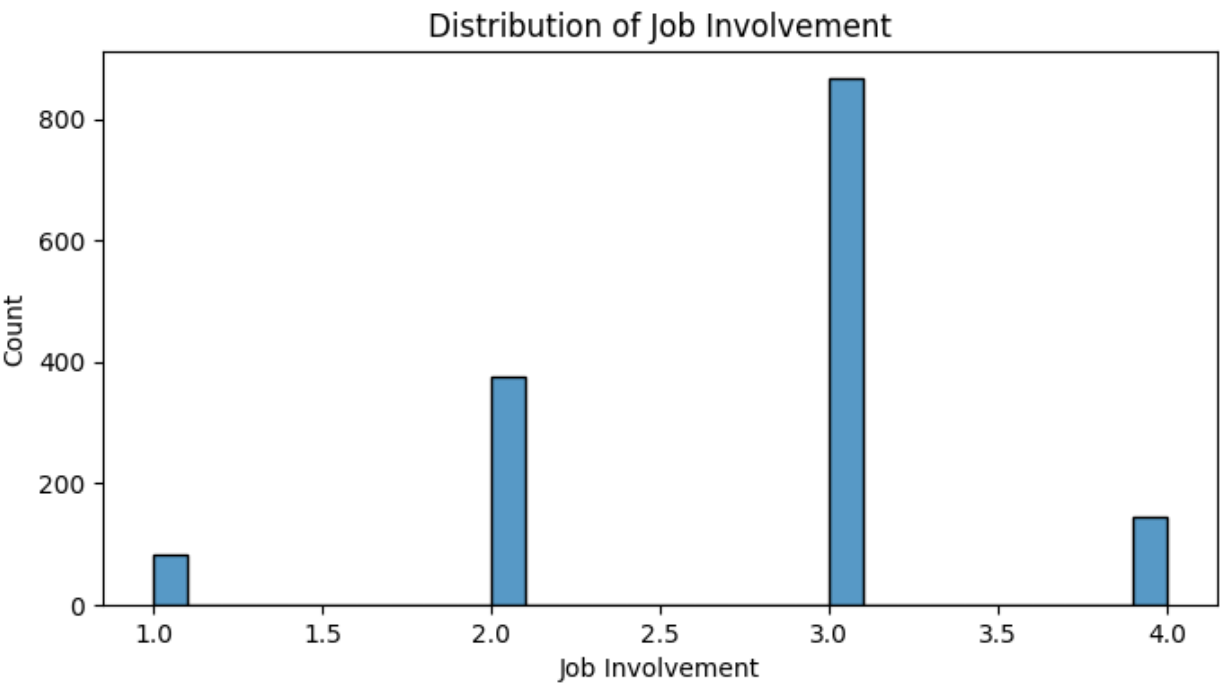
Median: 3.00

75th Percentile: 3.00

Trend Analysis:

Trend: Stable

Distribution: Normal





Column: Job Satisfaction

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.73

Standard Deviation: 1.10

Min: 1

Max: 4

25th Percentile: 2.00

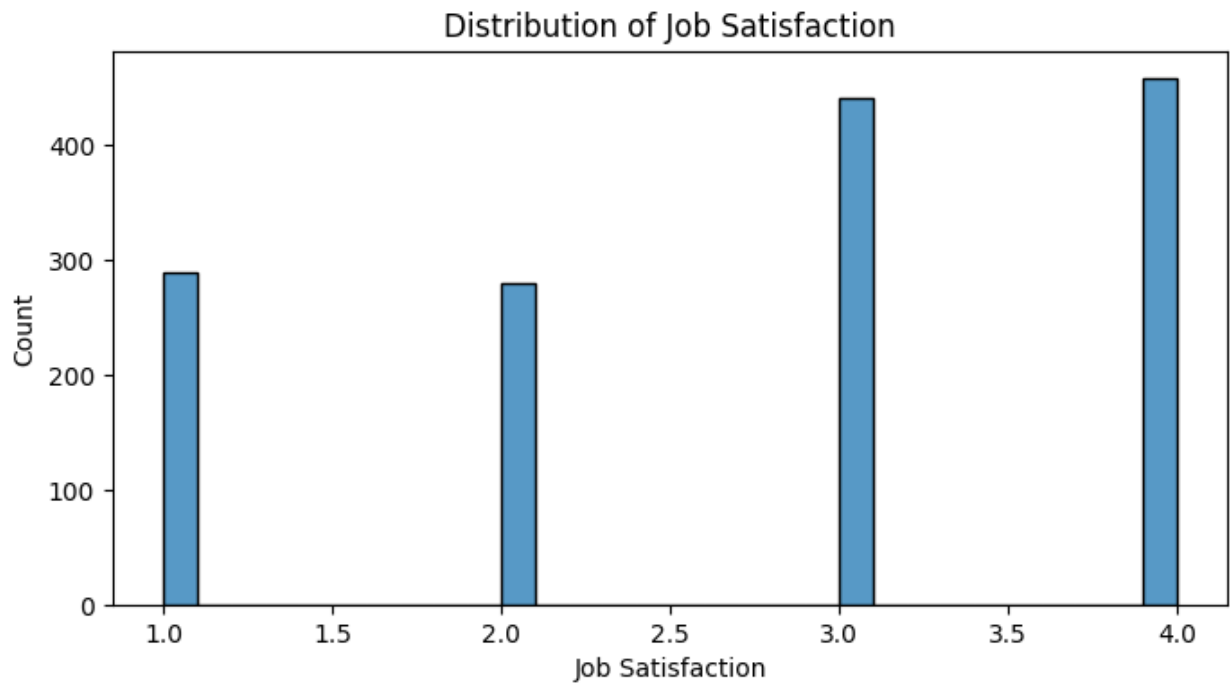
Median: 3.00

75th Percentile: 4.00

Trend Analysis:

Trend: Stable

Distribution: Normal



Column: Monthly Income

Type: int64

Missing Values: 0

Unique Values: 1349

Mean: 6502.93

Standard Deviation: 4707.96

Min: 1009

Max: 19999

25th Percentile: 2911.00

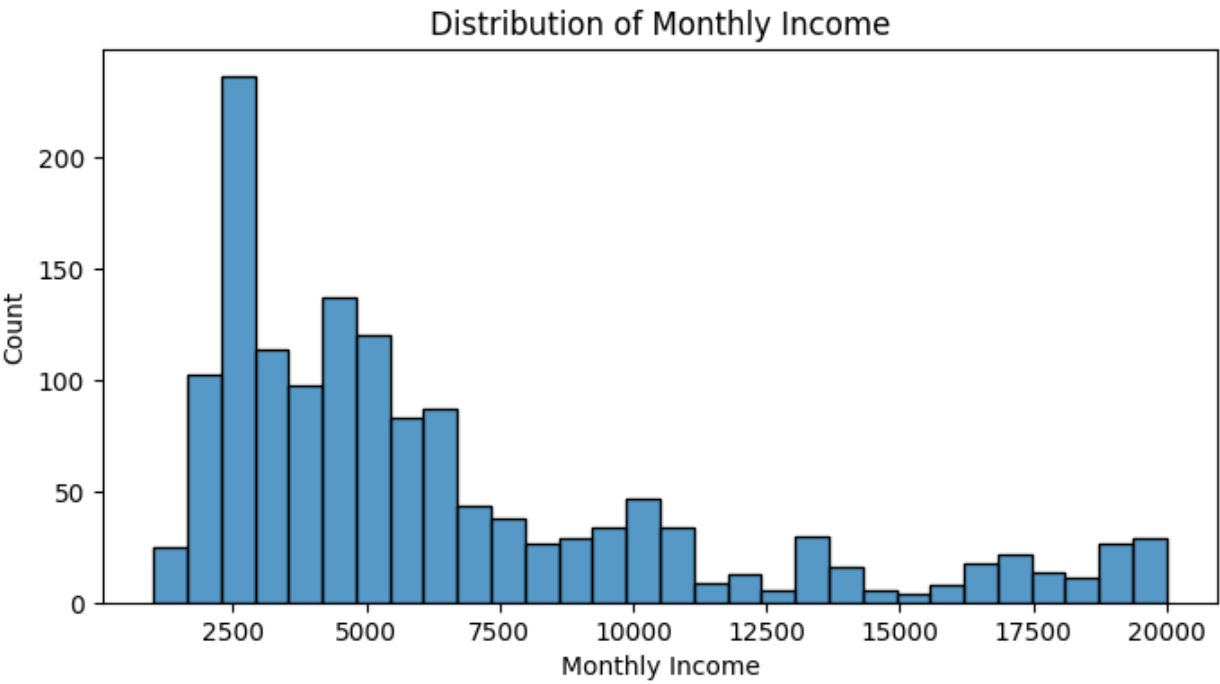
Median: 4919.00

75th Percentile: 8379.00

Trend Analysis:

Trend: Stable

Distribution: Right-Skewed



Column: Percent Salary Hike

Type: int64

Missing Values: 0

Unique Values: 15

Mean: 15.21

Standard Deviation: 3.66

Min: 11

Max: 25

25th Percentile: 12.00

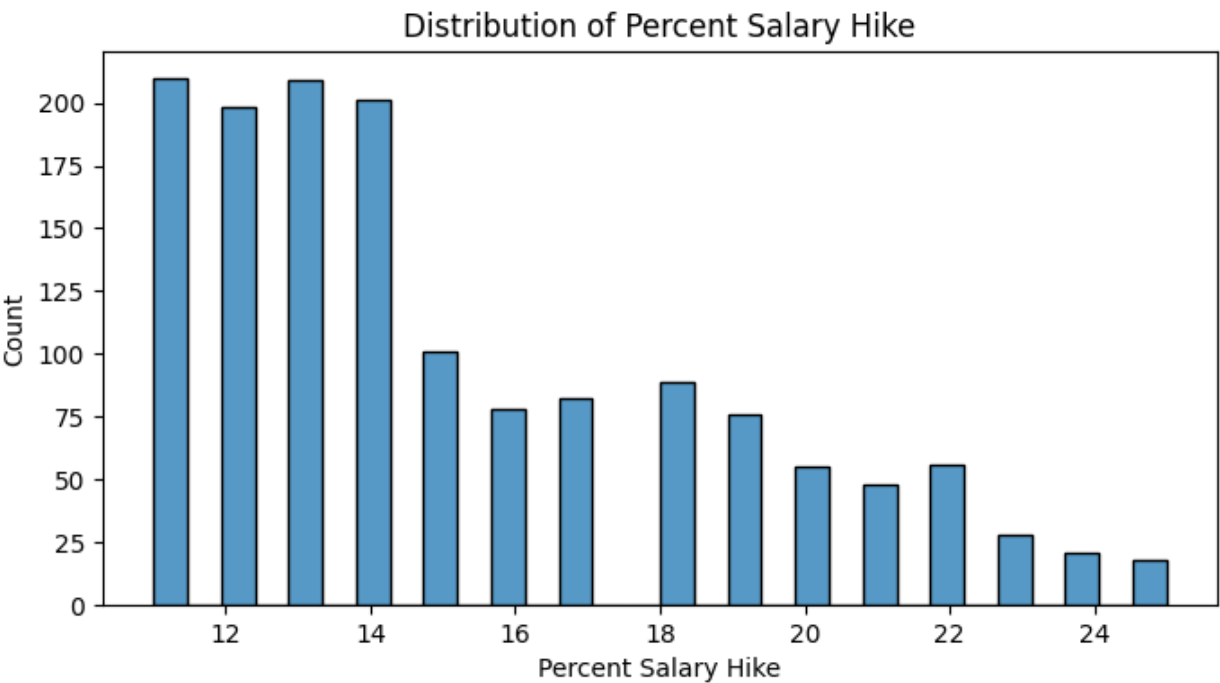
Median: 14.00

75th Percentile: 18.00

Trend Analysis:

Trend: Stable

Distribution: Right-Skewed



Column: Performance Rating

Type: int64

Missing Values: 0

Unique Values: 2

Mean: 3.15

Standard Deviation: 0.36

Min: 3

Max: 4

25th Percentile: 3.00

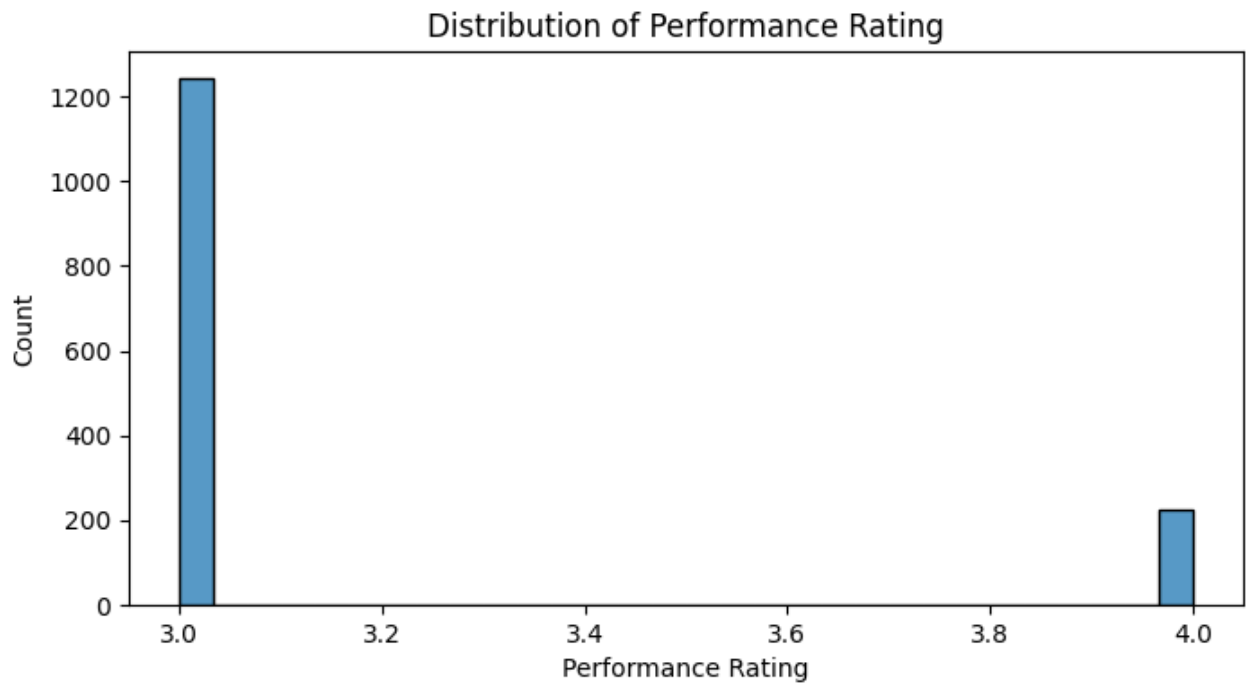
Median: 3.00

75th Percentile: 3.00

Trend Analysis:

Trend: Stable

Distribution: Right-Skewed



Column: Relationship Satisfaction

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.71

Standard Deviation: 1.08

Min: 1

Max: 4

25th Percentile: 2.00

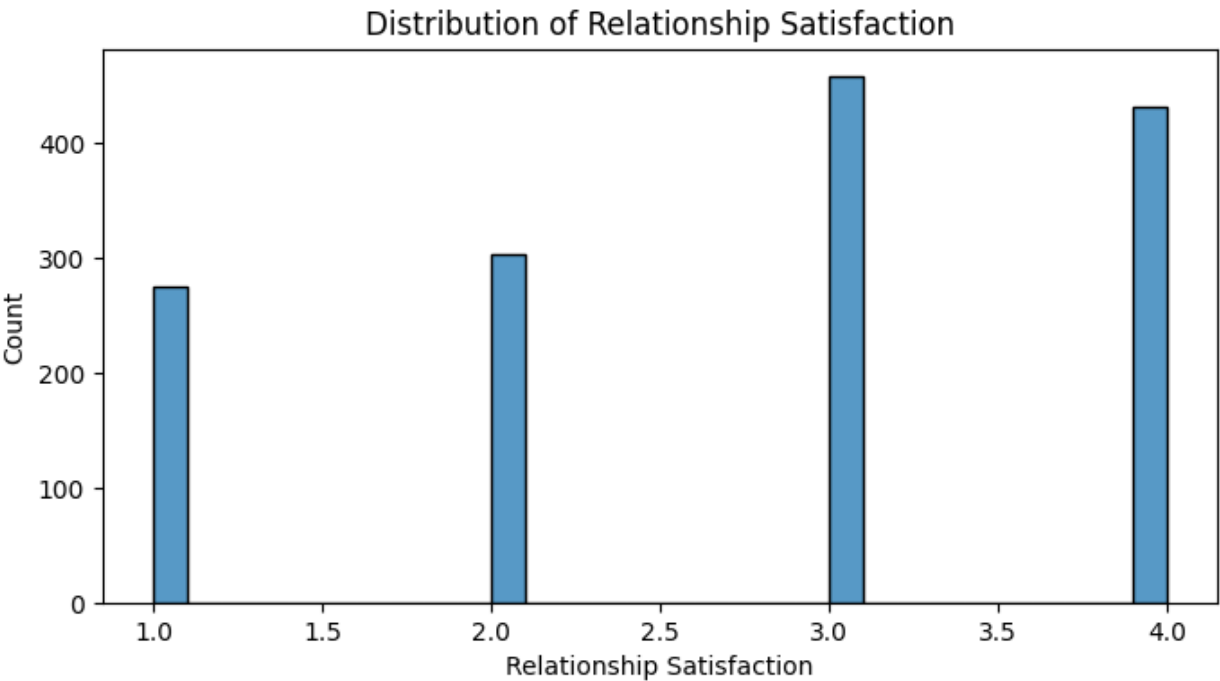
Median: 3.00

75th Percentile: 4.00

Trend Analysis:

Trend: Stable

Distribution: Normal



Column: Work Life Balance

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.76

Standard Deviation: 0.71

Min: 1

Max: 4

25th Percentile: 2.00

Median: 3.00

75th Percentile: 3.00

Trend Analysis:

Trend: Stable

Distribution: Left-Skewed

