# **CSV Profile Report**

### **Al-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.

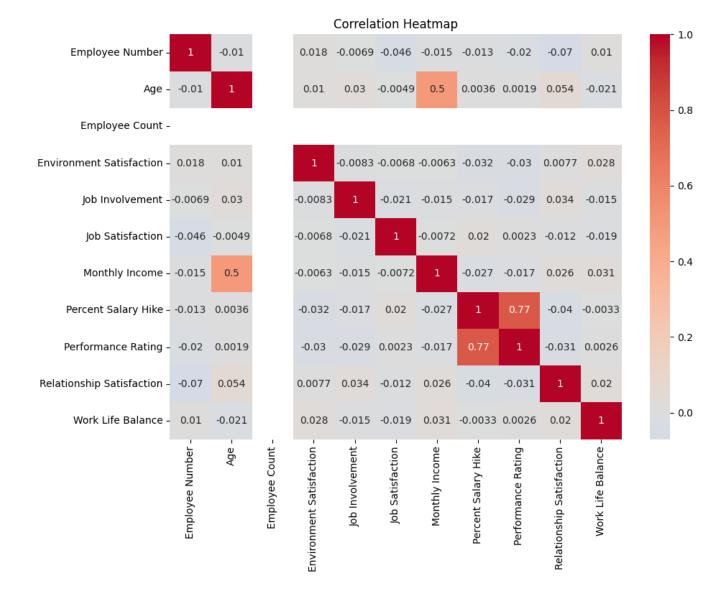
- Data Type Distribution:

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

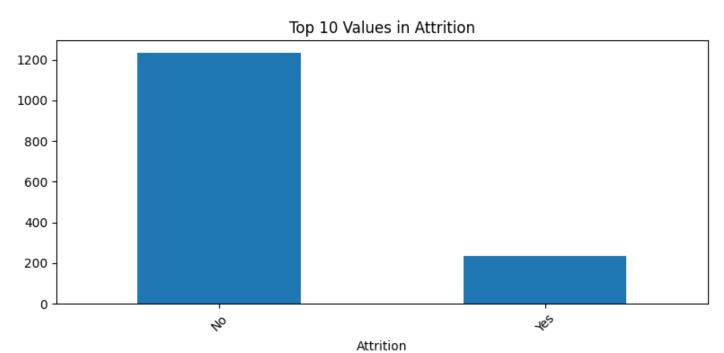
Missing Values: 0

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

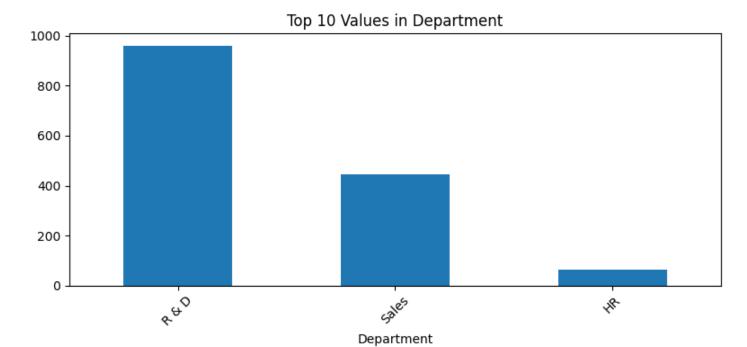
Unique Values: 3

## **Top Values:**

R & D: 961

Sales: 446

HR: 63



### **Column: Education**

Type: object

Missing Values: 0

Unique Values: 5

### **Top Values:**

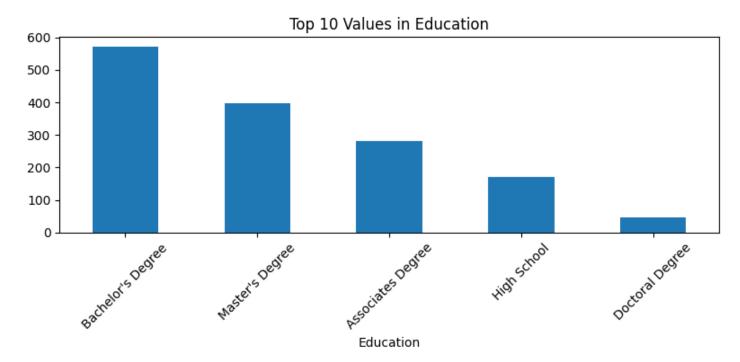
Bachelor's Degree: 572

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

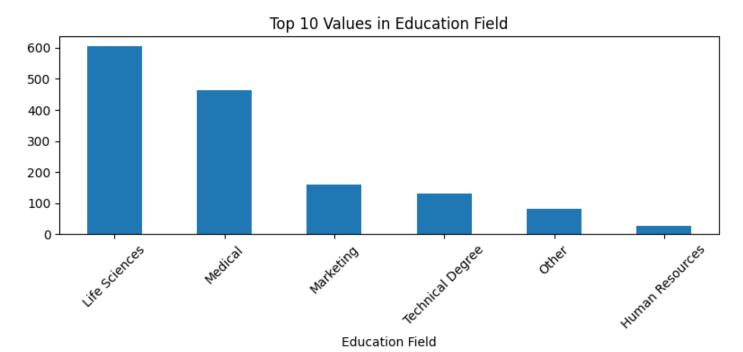
Medical: 464

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

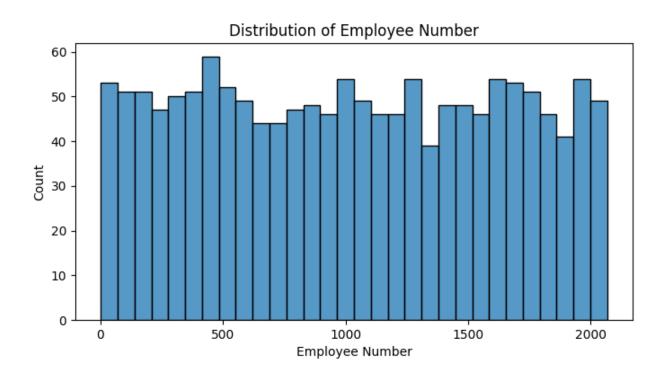
25th Percentile: 491.25

Median: 1020.50

75th Percentile: 1555.75

### **Trend Analysis:**

Trend: Increasing



# Column: Gender

Type: object

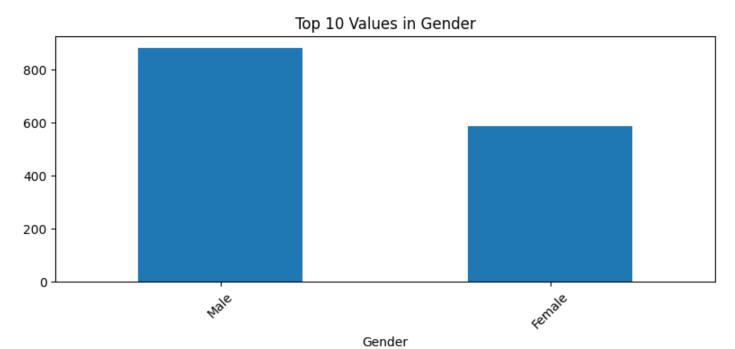
Missing Values: 0

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

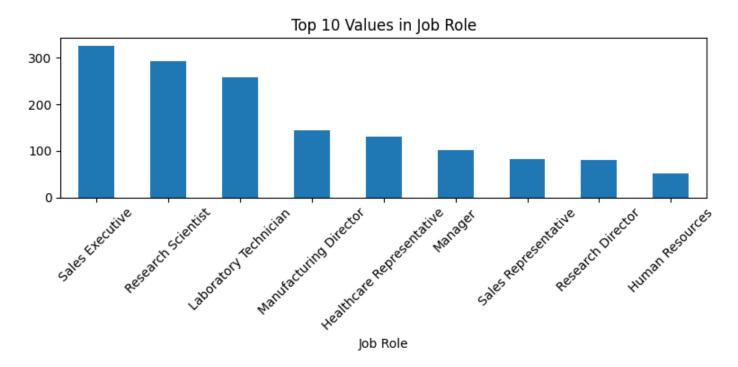
Healthcare Representative: 131

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

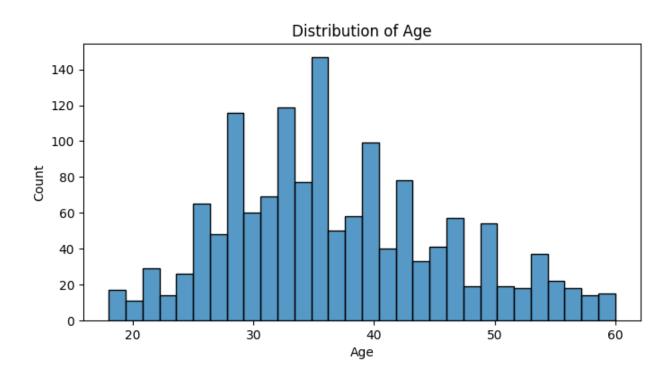
25th Percentile: 30.00

Median: 36.00

75th Percentile: 43.00

## Trend Analysis:

Trend: Stable



# **Column: Employee Count**

Type: int64

Missing Values: 0

Unique Values: 1

Mean: 1.00

Standard Deviation: 0.00

Min: 1 Max: 1

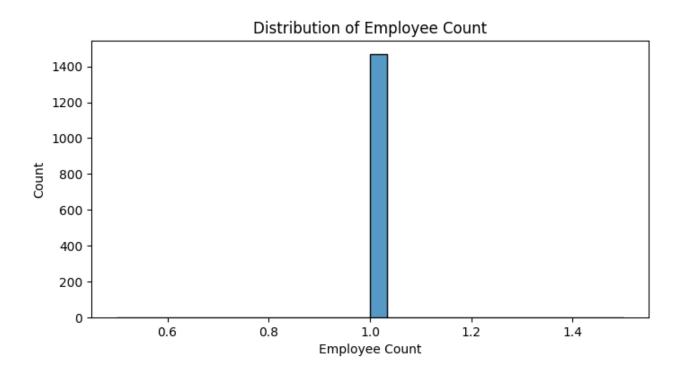
25th Percentile: 1.00

Median: 1.00

75th Percentile: 1.00

## Trend Analysis:

Trend: Stable



### **Column: Environment Satisfaction**

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.72

Standard Deviation: 1.09

Min: 1 Max: 4

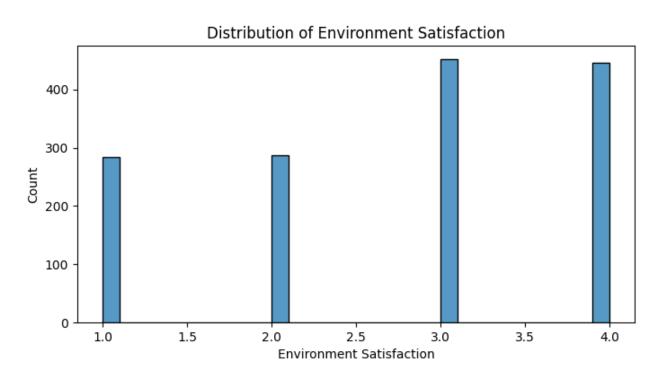
25th Percentile: 2.00

Median: 3.00

75th Percentile: 4.00

## Trend Analysis:

Trend: Stable



### **Column: Job Involvement**

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.73

Standard Deviation: 0.71

Min: 1 Max: 4

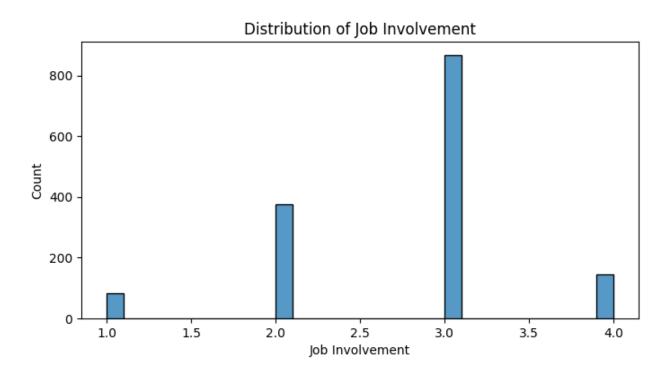
25th Percentile: 2.00

Median: 3.00

75th Percentile: 3.00

## Trend Analysis:

Trend: Stable



### **Column: Job Satisfaction**

Type: int64

Missing Values: 0

Unique Values: 4

Mean: 2.73

Standard Deviation: 1.10

Min: 1 Max: 4

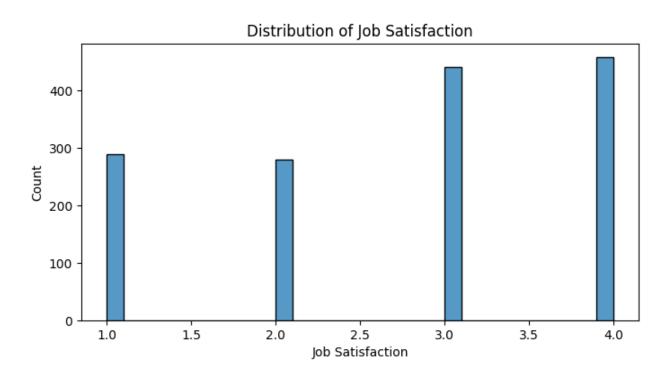
25th Percentile: 2.00

Median: 3.00

75th Percentile: 4.00

## Trend Analysis:

Trend: Stable



# **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

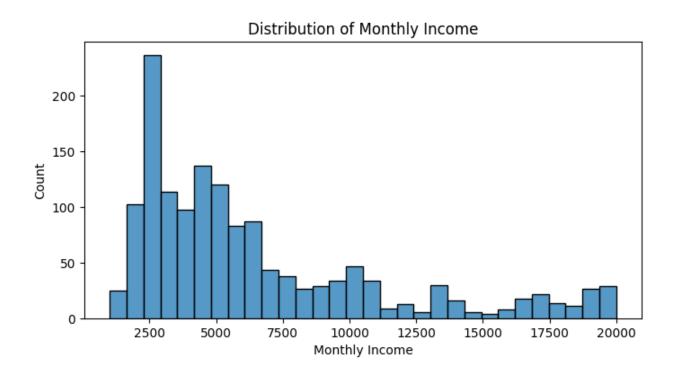
Median: 4919.00

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

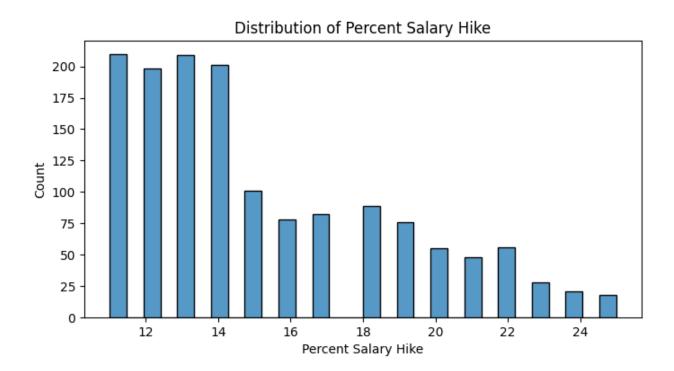
Median: 14.00

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

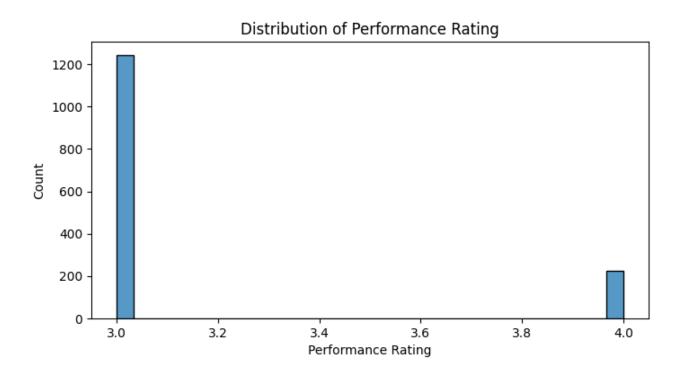
Median: 3.00

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

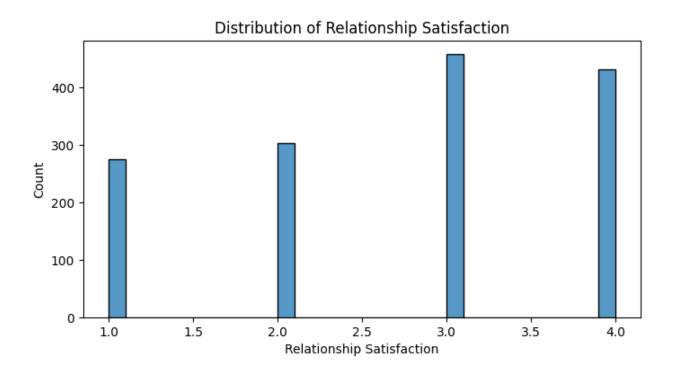
25th Percentile: 2.00

Median: 3.00

75th Percentile: 4.00

## Trend Analysis:

Trend: Stable



### **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

