

# HR Attrition Analysis - Model Accuracy & Prevention Suggestions

Accuracy: 0.7642

|              | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
| 0            | 0.93      | 0.78   | 0.85     | 370     |
| 1            | 0.37      | 0.68   | 0.48     | 71      |
| accuracy     |           |        | 0.76     | 441     |
| macro avg    | 0.65      | 0.73   | 0.66     | 441     |
| weighted avg | 0.84      | 0.76   | 0.79     | 441     |

## Classification Report:

Model Used: Decision Tree Classifier  
Overall Accuracy: 76.42%

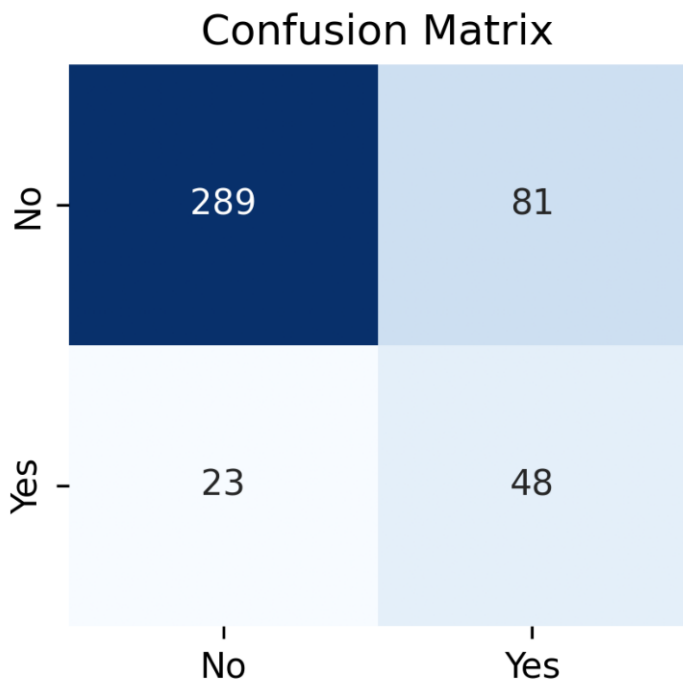
### Key Insights:

- Attrition highest in Sales & HR departments.
- Low salary band employees are most at risk.
- Longer gaps (>3 years) since last promotion correlate with higher attrition.
- Frequent overtime indicates burnout risk.

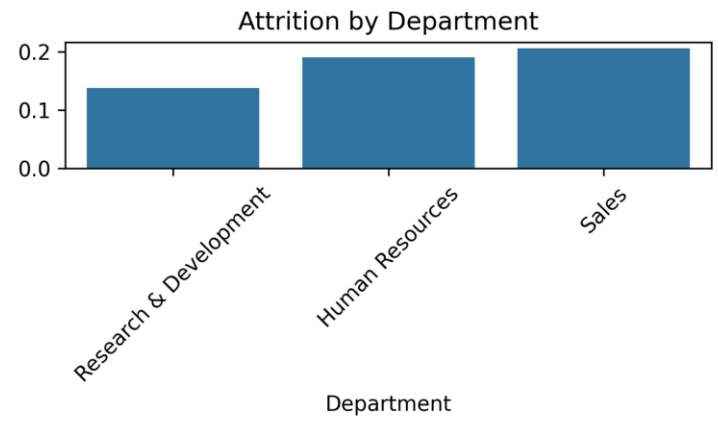
### Prevention Recommendations:

1. Review compensation for lower bands.
2. Create transparent promotion pathways.
3. Enforce work-life balance policies.
4. Run quarterly engagement surveys.
5. Use model predictions for proactive retention.

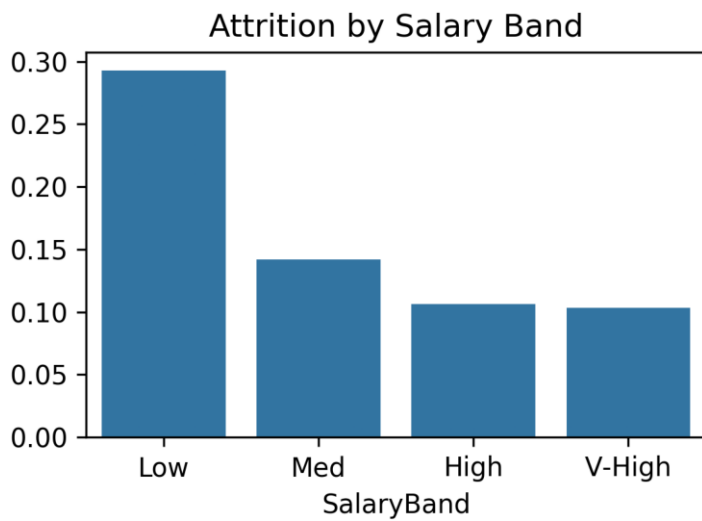
Confusion Matrix



Attrition by Department



Attrition by Salary Band



Attrition vs Promotion Gap

