PREDICTING EMPLOYEES ATTRITION

Innocent Byiringiro

EMPLOYEE ATTRITION

Attrition

≠

Turnover

Unfilled roles left
Roles elimination

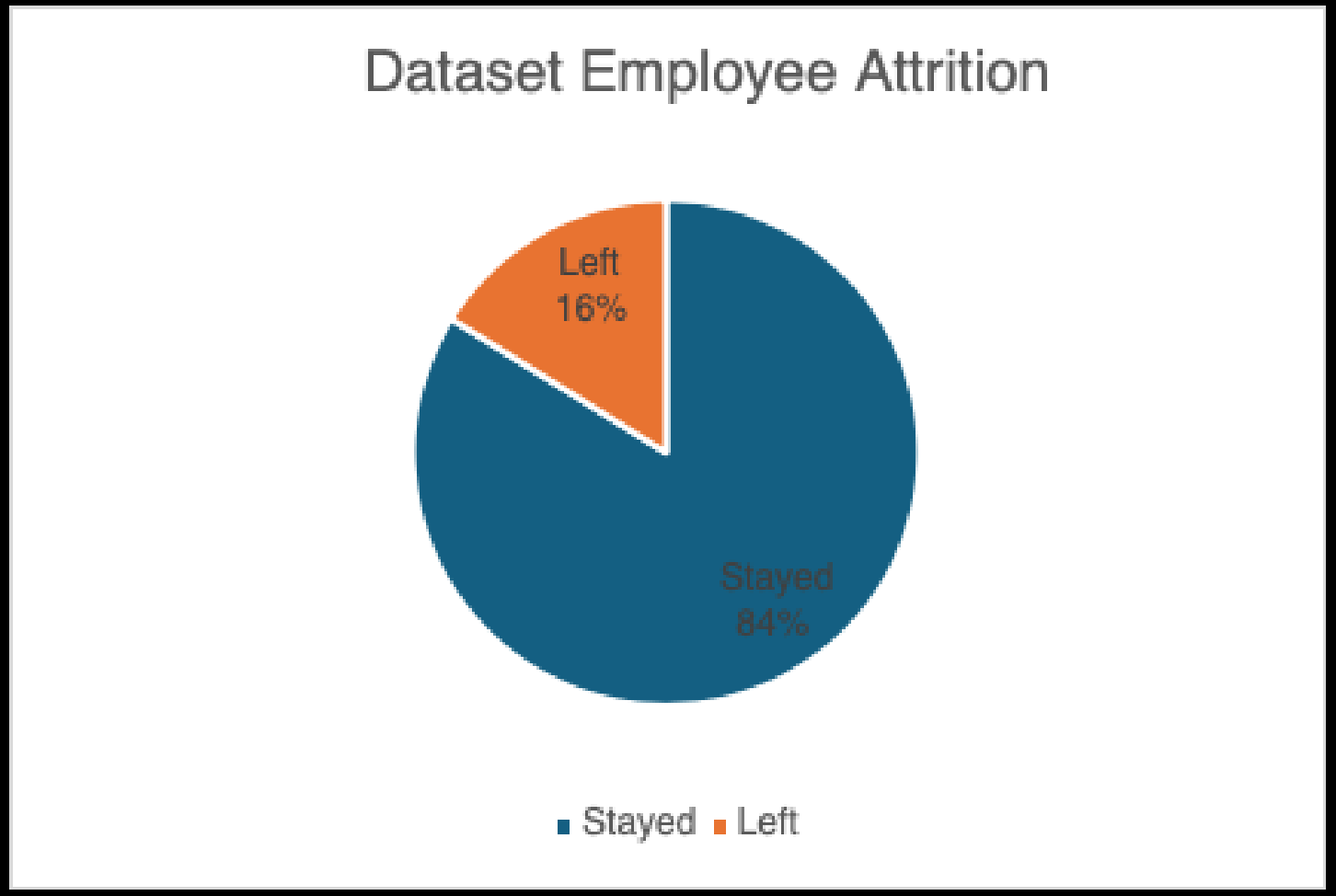
OUTLINE

- Data Set
- Data Analysis
- Selected Model
- Show Me
- Interpretation
- References

DATA SET

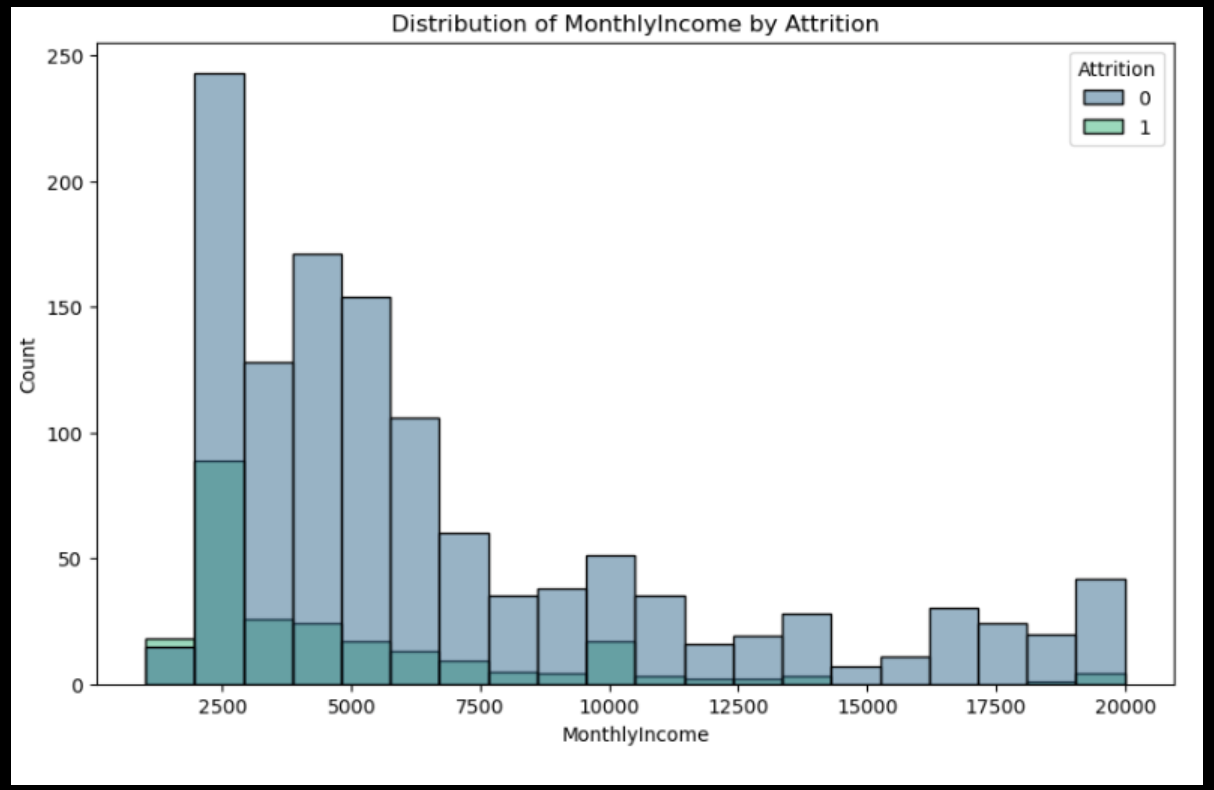
Position	Educ. & Experience	Job satisfaction	Demographics	Financial security
Role, Level, etc.	Educ., working years	Distance from home, WorkLife bal.	Gender, age, etc.	Income, Monthly rate, etc.

DATA ANALYSIS

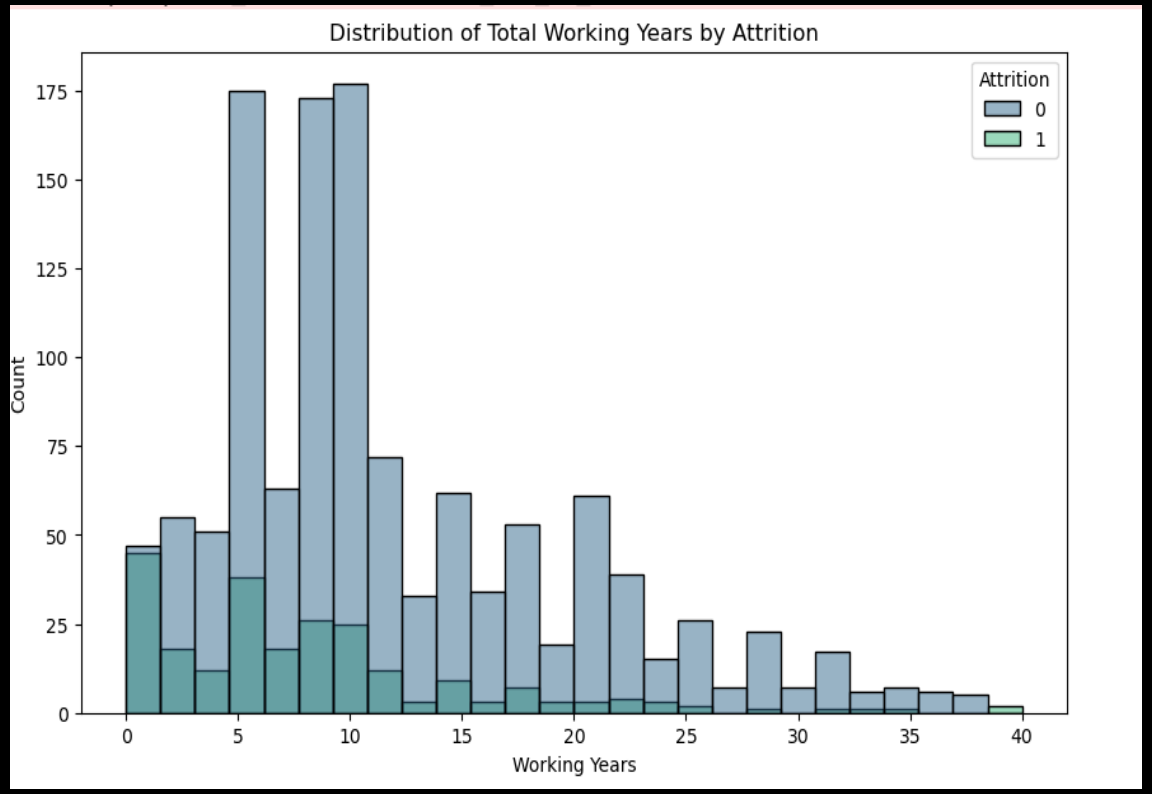


DATA ANALYSIS(CONT.)

ATT. VS MONTHLY INCOME

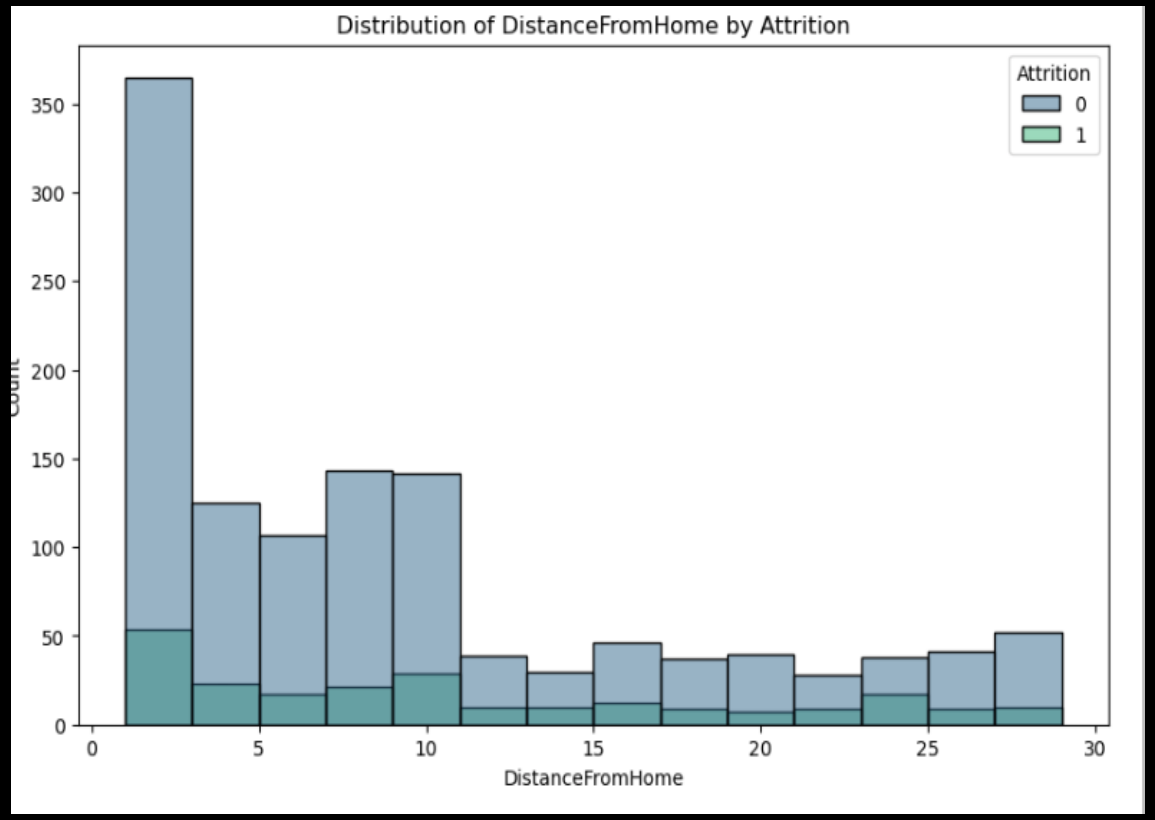


ATT. VS WORKING YEARS

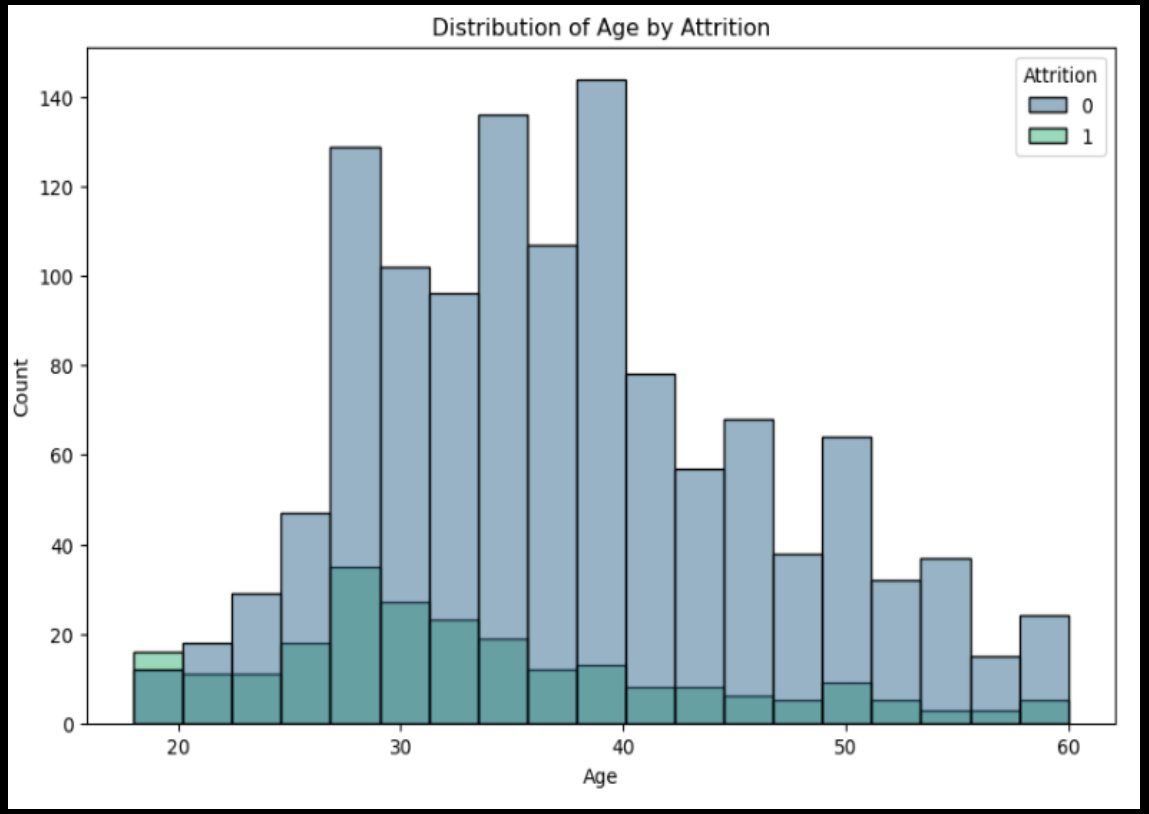


DATA ANALYSIS(CONT.)

ATT. VS DIST. FROM HOME



ATT. VS AGE



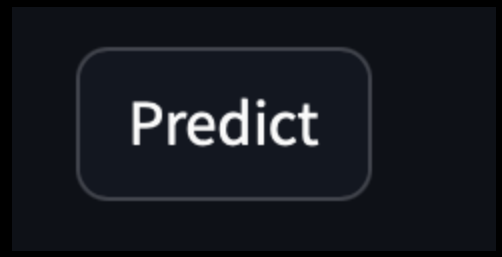
SELECTED MODEL

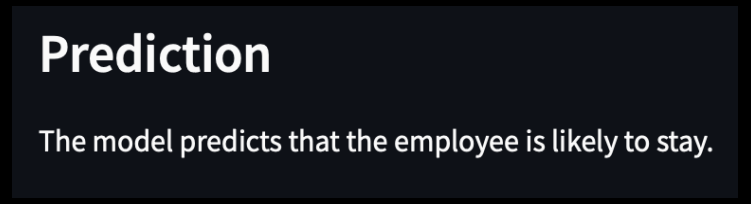
- Random Forest classification
- Handles imbalances without the need to apply other techniques such as oversampling and under-sampling
- The se are metrics to evaluate the model: accuracy, precision/recall, f1-score

SHOW ME!

Input

Output





MOVING FORWARD

- The model's accuracy is 86%
- The macro averages (0.55 for precision, recall, and F1-score) reflect the overall performance across both classes
- There is imbalance and the model's struggle with class 1(minority).
- Model is likely to spot if an employee will stay and less likely to spot if they will leave
- Broader use-case

REFERENCES

Inn-ctrl

Innocent Byiringiro

Inn-ctrl

- S. Flowers (1974). Why Employees Stay. Retrieved From: https://hbr.org/1973/07/why-employees-stay
- Dataset: Link: https://www.kaggle.com/datasets/thedevastator/employee-attrition-and-factors