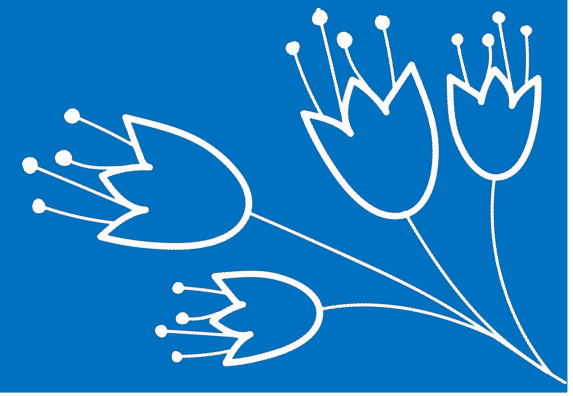

Snap[chat] into Classifiers
Predicting Employee Retention and Turnover

Overview

- ✔ Introduction
- ✔ Classifier?
- ✔ Classifier Models
  - Naive Bayes
  - Decision Tree
  - KNN
- ✔ What's The Best?
- ✔ Moving Forward



Introduction

Snapchat's Goals

- Snapchat plans to make decisions on internal mobility
- Company values organizational commitment and wants to promote loyal employees
- Snapchat requires assistance on predicting employee retention

How will BAWSE Consulting Assist?

- Provide models to predict employee retention and turnover

BAWSE CONSULTING

DRIVERS OF CHANGE

Why Data?

“Data are just summaries of thousands of stories—tell a few of those stories to help make the data meaningful.”

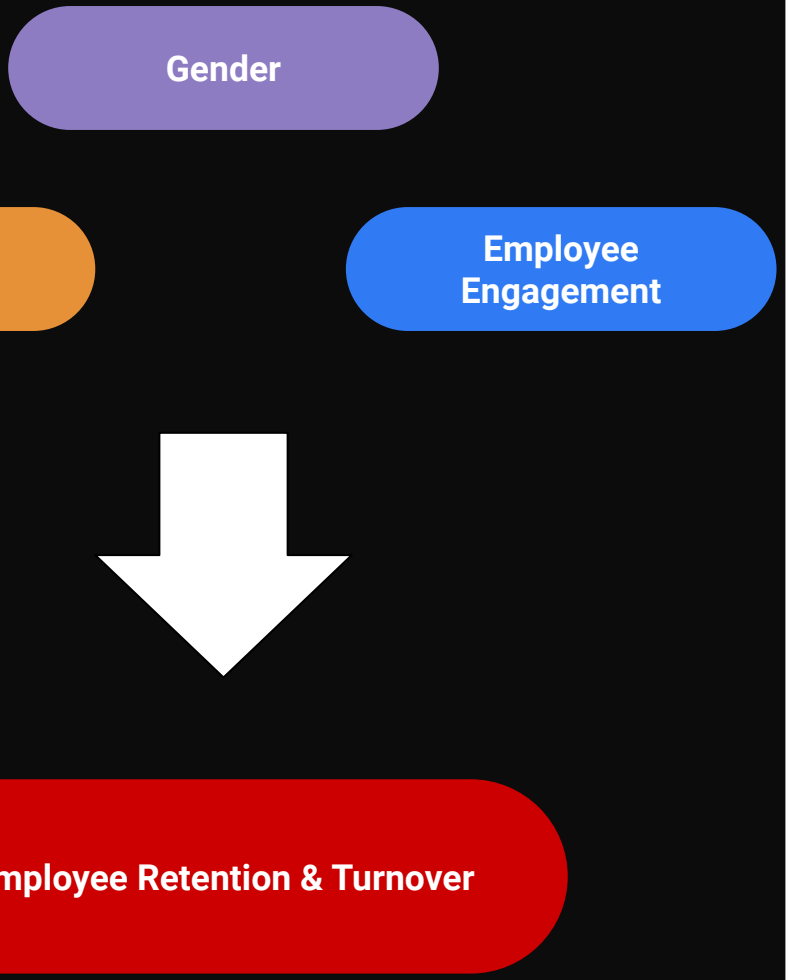
~ Dan Heath
[A Bestselling Author]

Before We Start...

- What exactly is a classifier?
  - An algorithm trained on previous data
  - Used for sorting & grouping
- How do we measure the effectiveness of a classifier model?
  - Accuracy
  - Specificity
  - Sensitivity

Naive Bayes (NB) Model

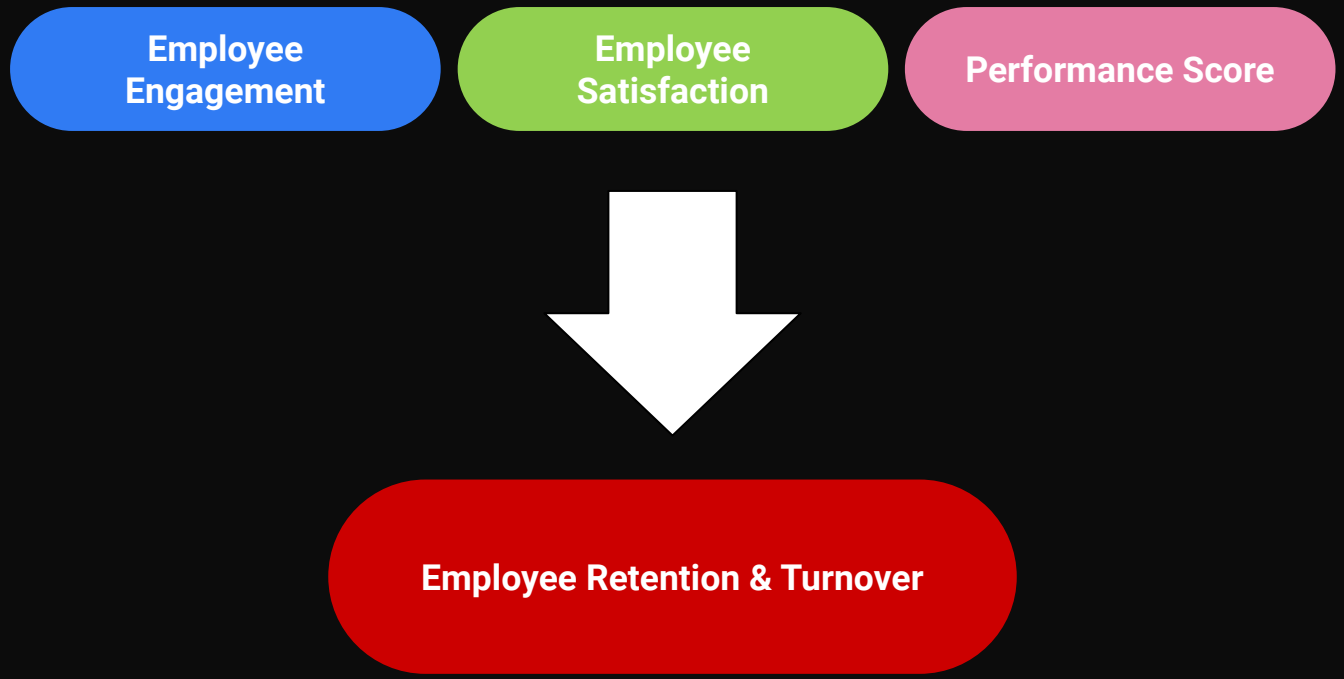
- Basic classifier
  - Uses probability to predict grouping
  - Typically has high specificity
  - Predictors must be independent
    - Not always possible with employee data



- **Accuracy: 60.66%**
- **Specificity: 82.50%**
- **Sensitivity: 19.05%**

(Machine Learning Interviews, 2021)

Decision Tree (DT) Model



- Accuracy: 49.18%
- Specificity: 70%
- Sensitivity: 9.52%

(Aashima Yuthika, 2018)

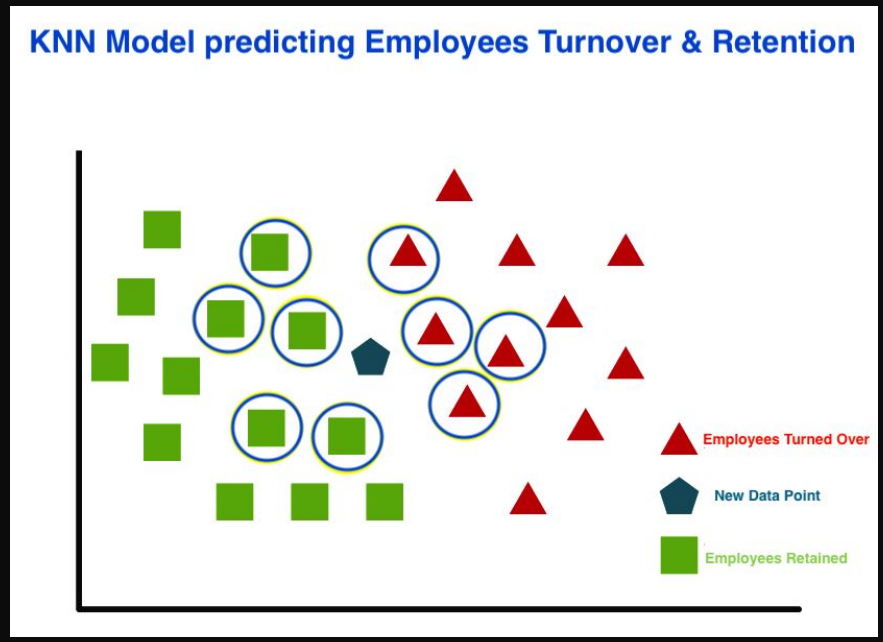
K-Nearest Neighbor (KNN) Model

Employee Engagement

Employee Satisfaction

Employee Performance Scores

Employee Retention & Turnover



- Accuracy: 93.44%
- Specificity: 100 %
- Sensitivity: 80.95%

(Genesis, 2018)

The BEST classifier?

(In Snapchat's case...)

KNN

Moving Forward

- While the KNN model is great at predicting if employee will stick with company...
  - What else can the model tell us?
- Steps to improve employee engagement and satisfaction
  - May positively impact performance and lead to less turnover

Thank You!

Bawse Consulting has greatly enjoyed working with you!

Sources Cited

Aashima Yuthika. (2018, October 8). *In the previous post we talked about decision trees, how they work and how you can try to get the best resu...* Linkedin.com; LinkedIn. https://www.linkedin.com/pulse/pros-cons-decision-trees-aashima-yuthika

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Naive Bayes Classifier : Advantages and Disadvantages. (2021, July 30). Machine Learning Interviews. https://machinelearninginterview.com/topics/machine-learning/naive-bayes-classifier-advantages-and-disadvantages/