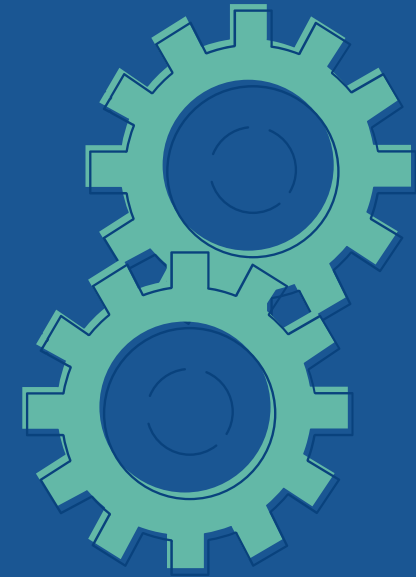


# Customers Segmentation Prediction





What is The Customer Segmentation?



Business Problem



Data



Data Processing



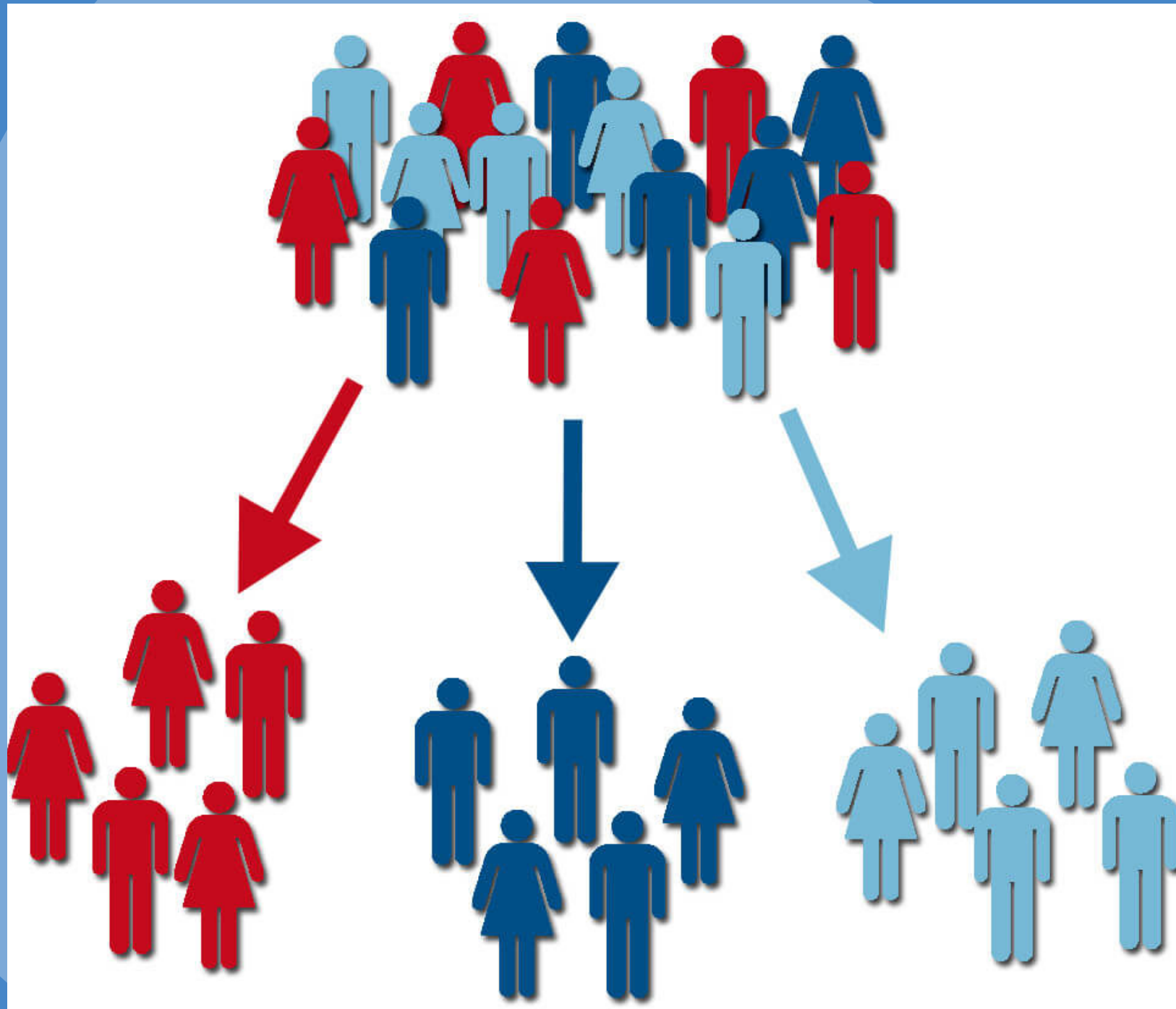
Models



Results

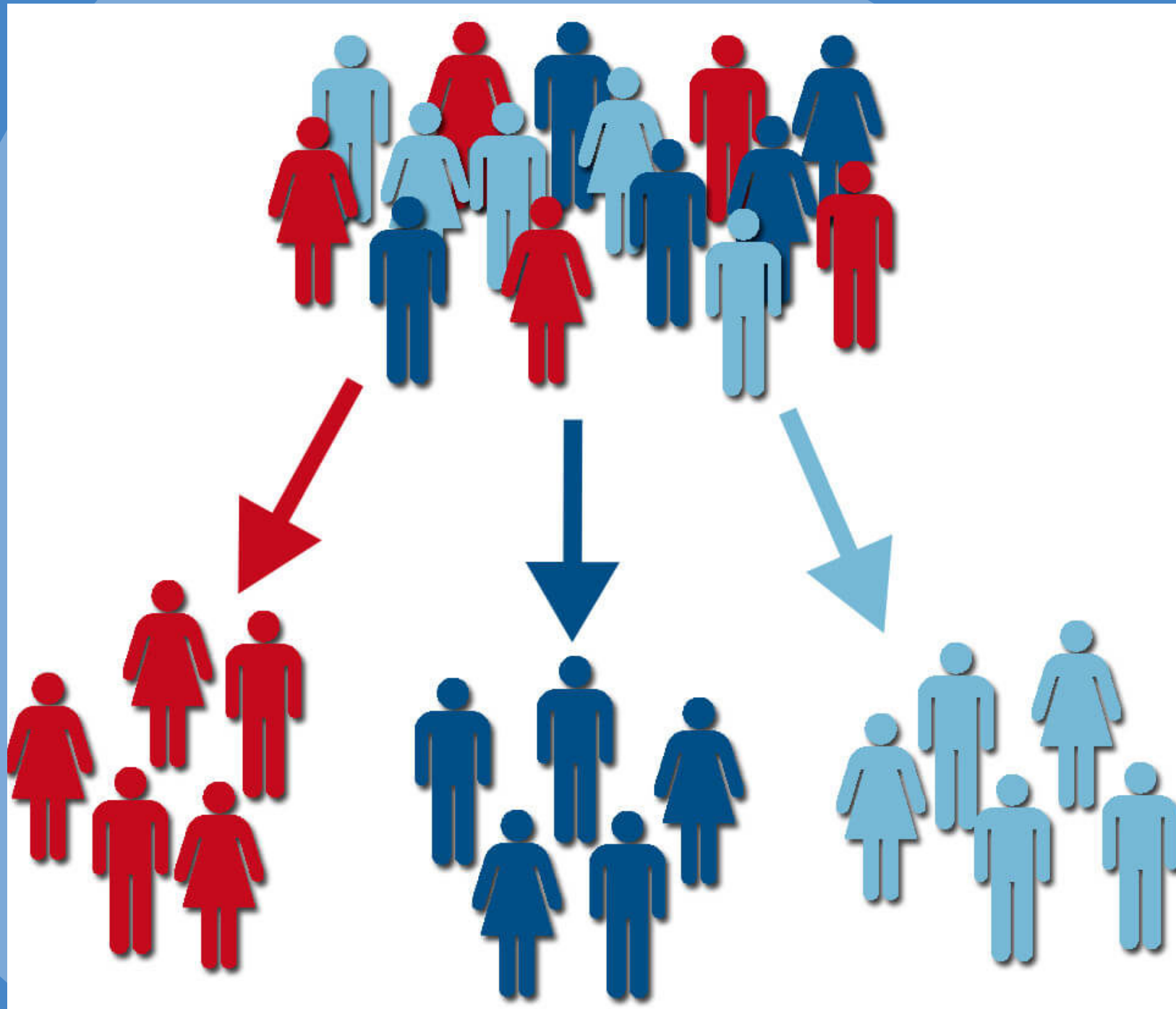
# What is The Customer Segmentation?

Customer segmentation is the process of dividing customers into groups based on common characteristics so that companies can effectively and appropriately market each group.



# What is The Customer Segmentation?

Companies also hope to gain a deeper understanding of their customers' preferences and needs to more accurately tailor marketing materials toward each segment.



# Business Problem



Predicting customer segmentation based on customer behavior data or common characteristics, such as age, gender and spending scores.



Age



Gender



Graduated



Profession



Work\_Experience



Spending\_Score



Ever\_Married



Family\_Size



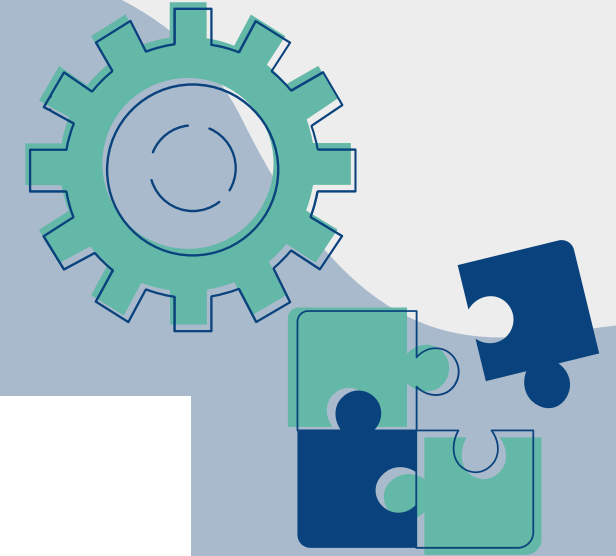
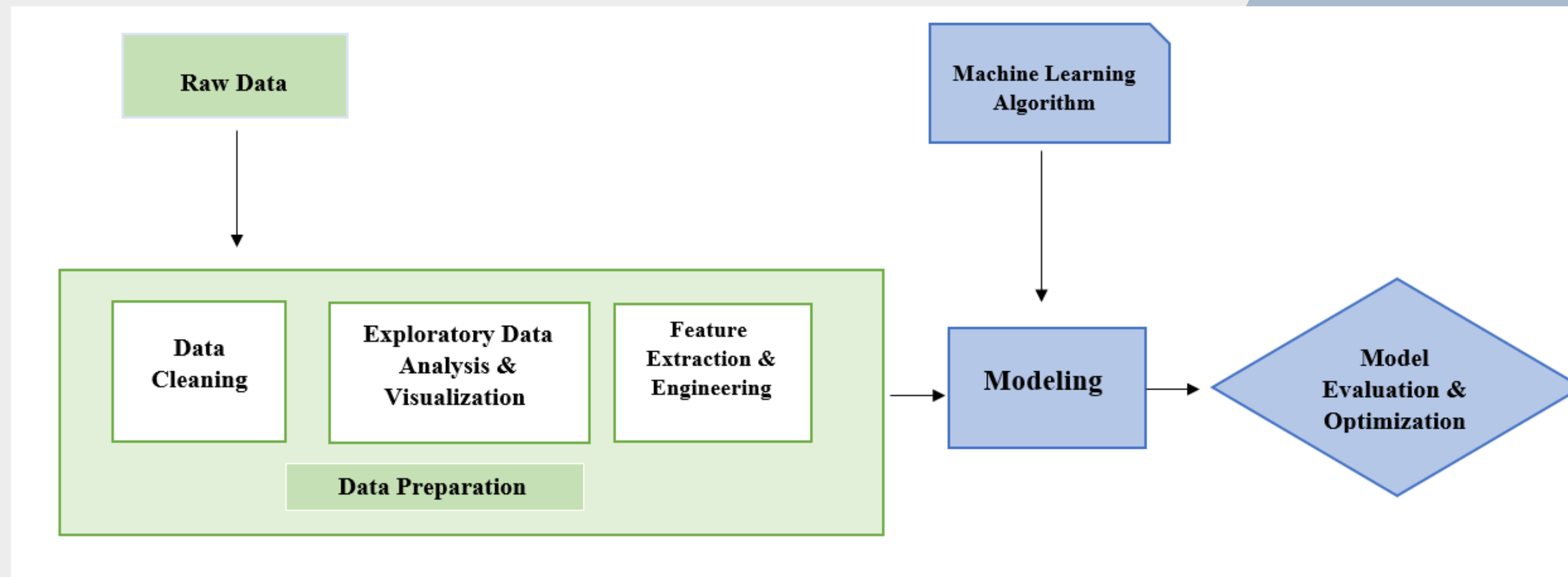
Category



Segmentation(target)



# Data Processing





# Data Processing

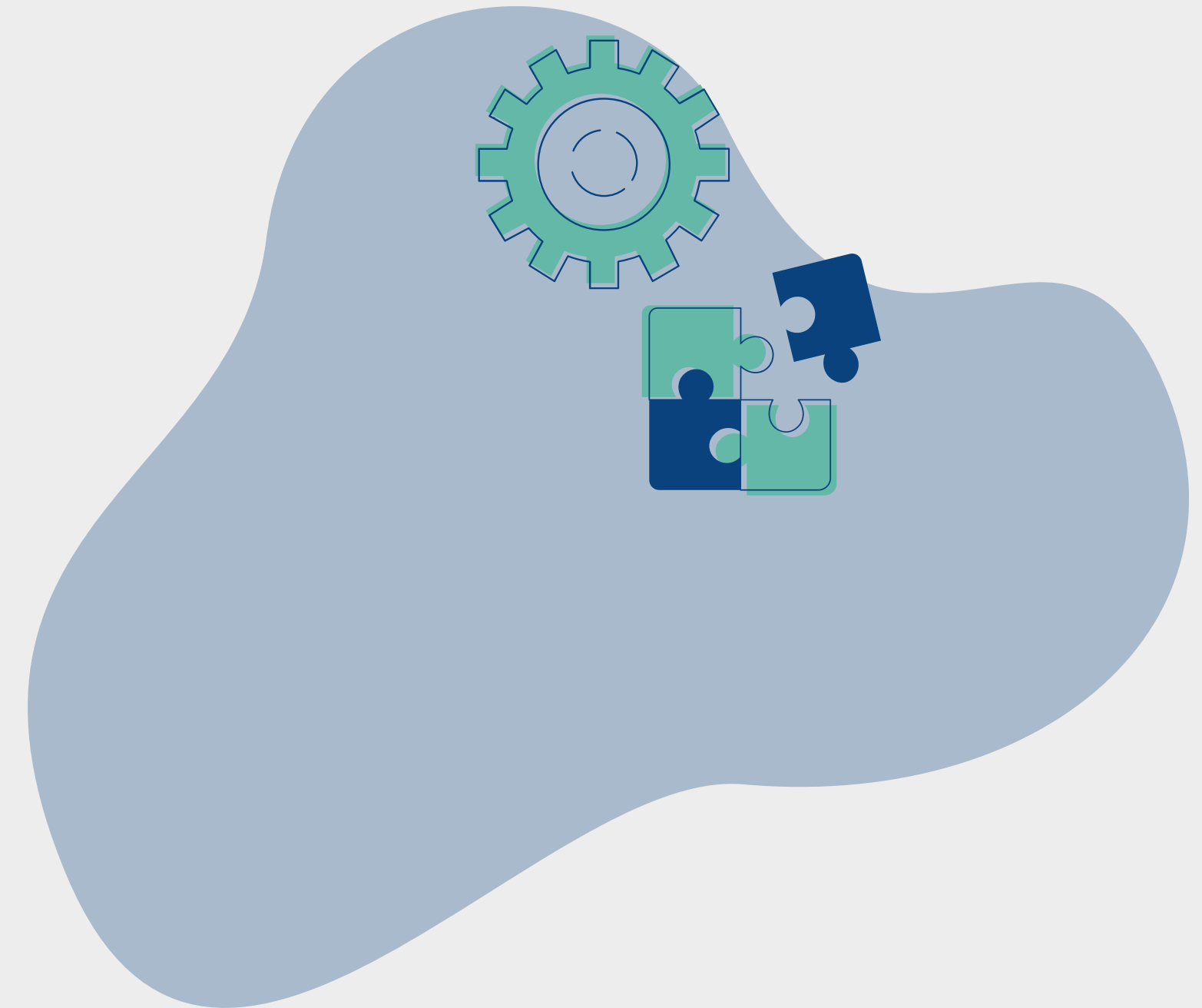
- Filled some missing value by mode.
- Handling Outliers

## Categorical Features:

- Converting Categorical Data to 0 & 1
- Converting Categorical Data to dummy variables

## Add two more feature:

- Age Category
- Family Category





# Models

1

**Logistic regression**

2

**Decision Tree Classifier**

3

**Random Forest Classifier**

4

**KNeighbors Classifier**

5

**Stacking Classifier**

# Models

1

**Logistic regression: 0.49**

2

**Decision Tree Classifier: 0.43**

3

**Random Forest Classifier: 0.47**

4

**KNeighbors Classifier: 0.44**

5

**Stacking Classifier: 0.51**

# Results

- Baseline accuracy: 27%

By using GridSearchCV with the best parameters on the stacked model, the best tuned stacked model has the best accuracy **by 53%**

# THANK YOU!

