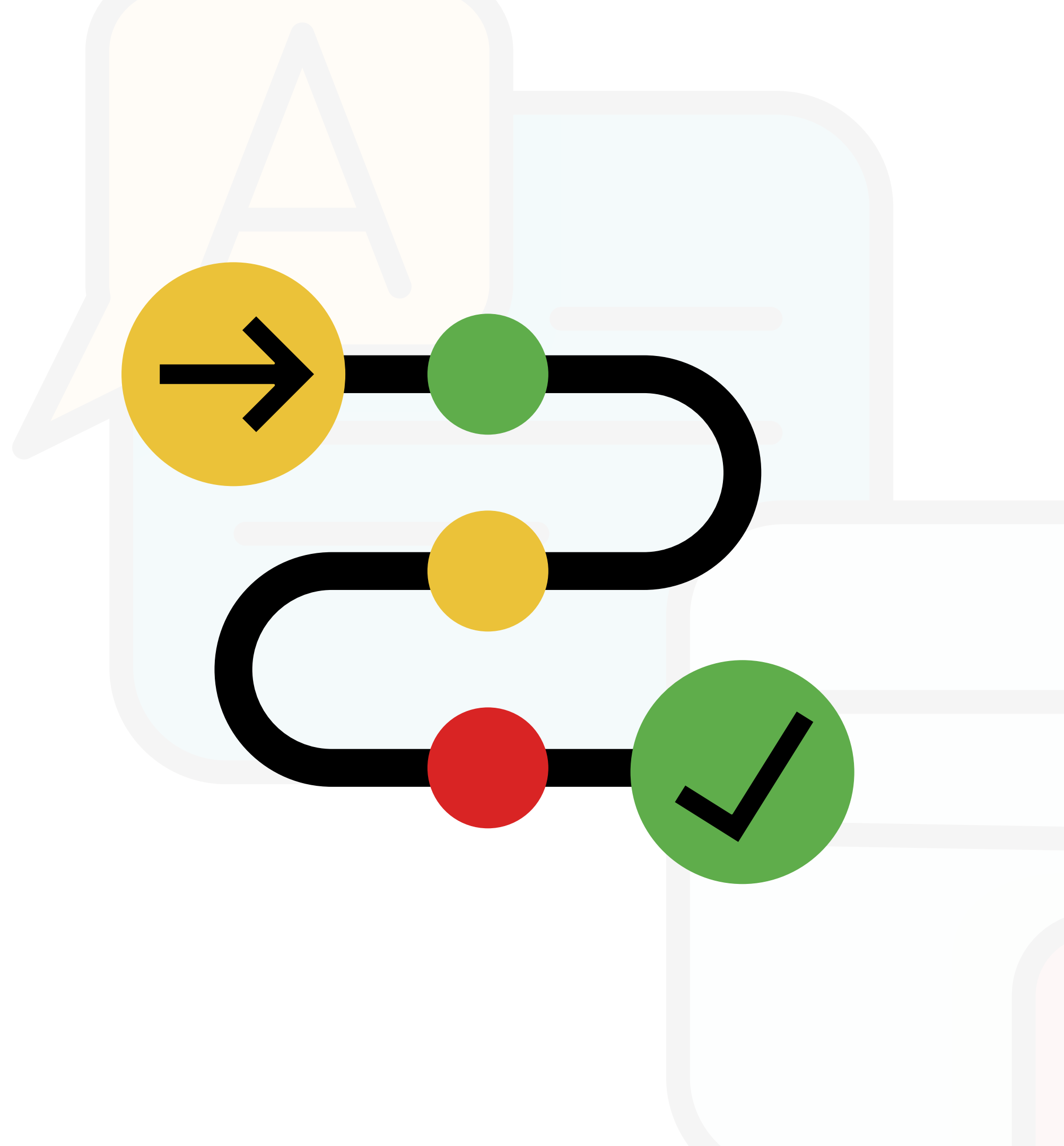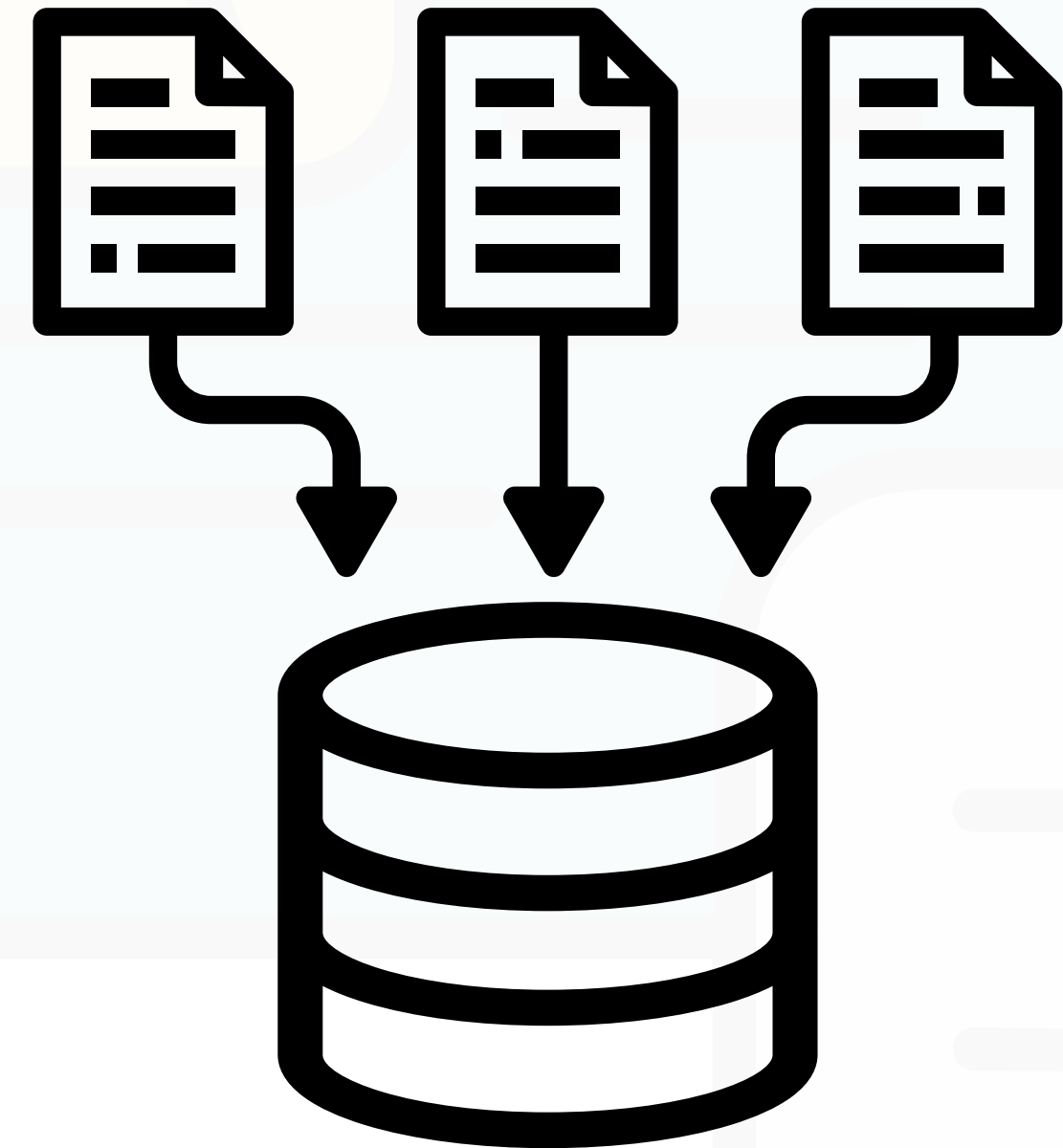# Machine Learning
RoadMap

7 Steps in Machine Learning

1. Gathering Data
2. Preparing the Data
3. Choosing a model
4. Training
5. Evaluation
6. Hyperparameter Tuning
7. Prediction

| Deployment

1. Gathering Data:

    a. From Companies

    b. From API

    c. Web Scraping
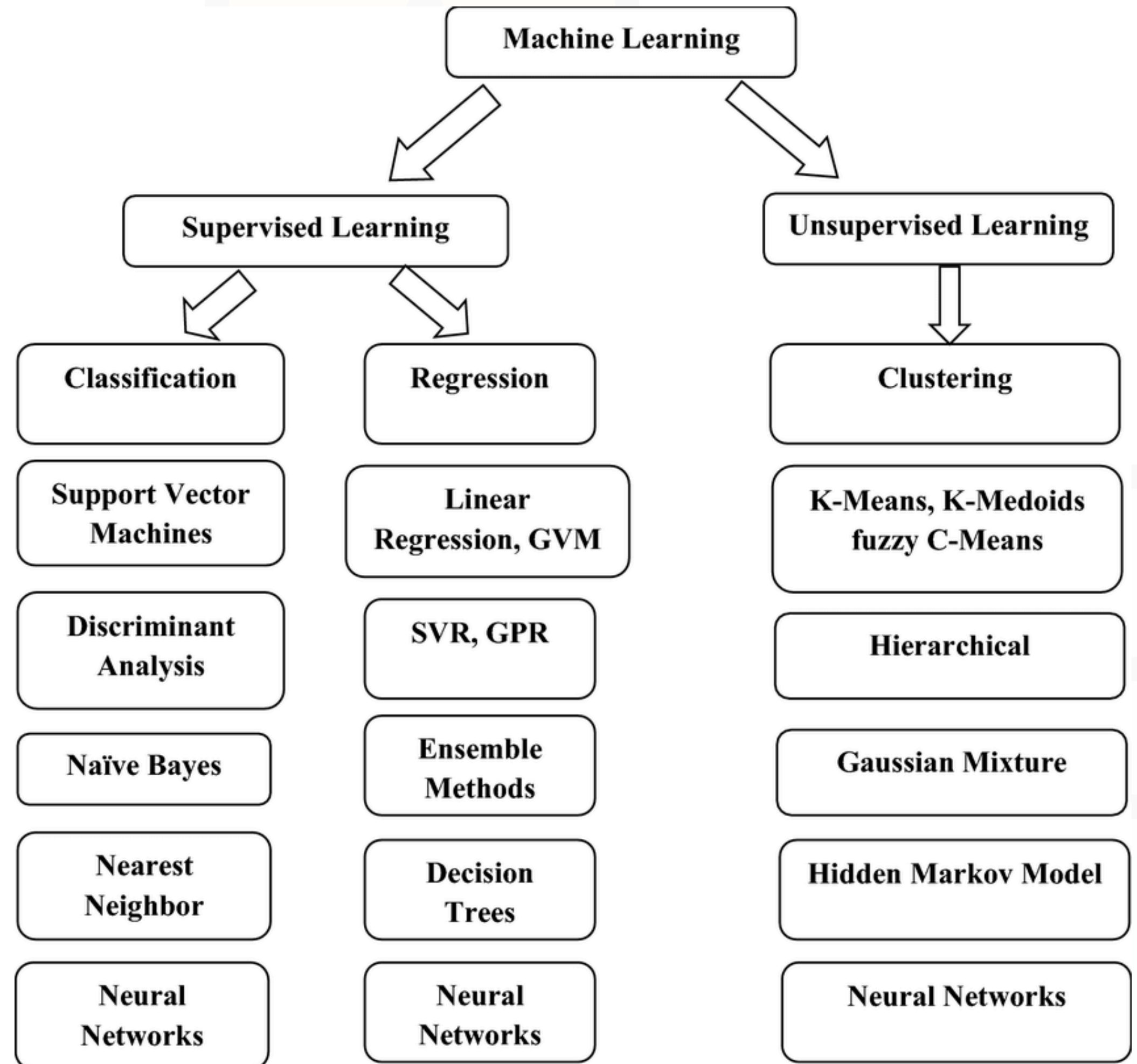
2.Preparing the Data:
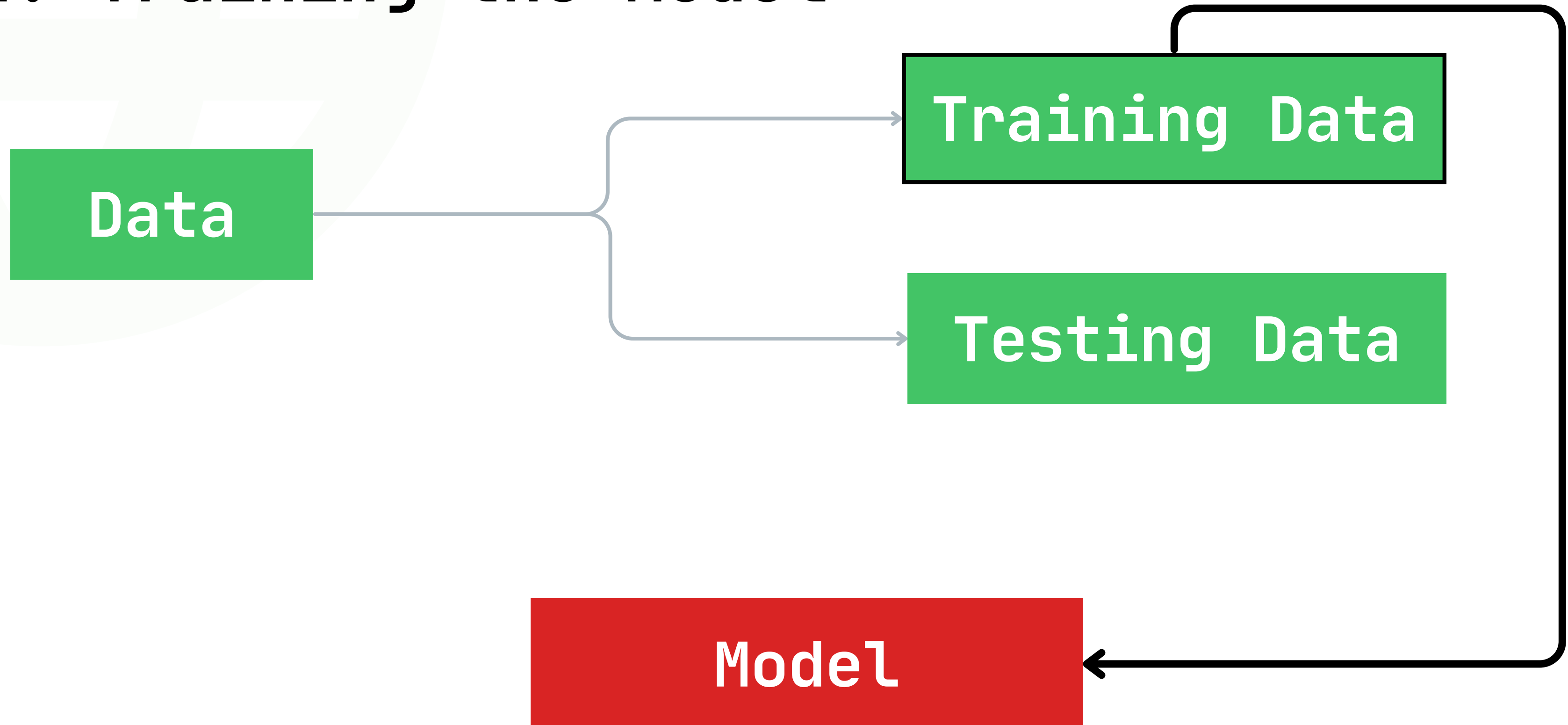
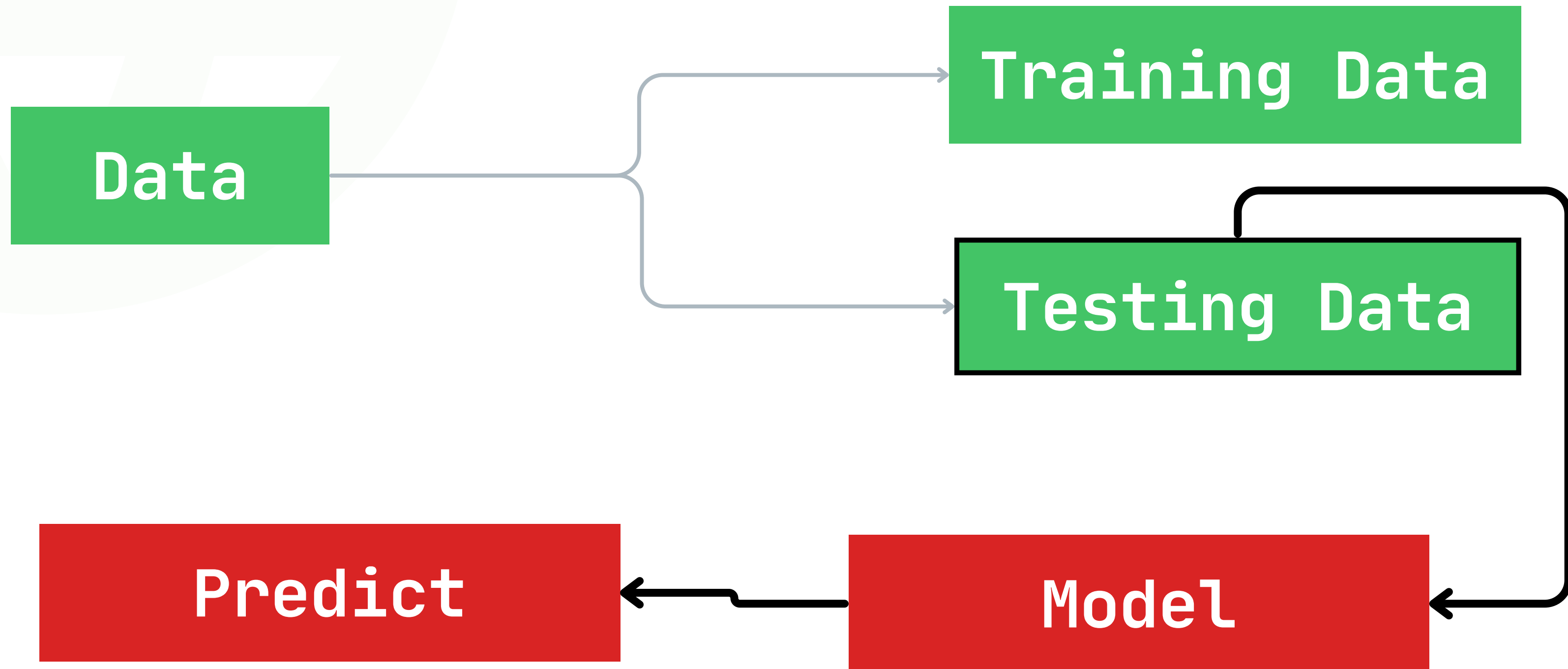a. Exploratory Data Analysis(EDA)

b. Data Visualization

3. Choosing Model

```
                              Machine Learning
                          ┌──────────┴──────────┐
                Supervised Learning          Unsupervised Learning
              ┌─────────┴─────────┐                  │
        Classification        Regression          Clustering

      Support Vector           Linear          K-Means, K-Medoids
        Machines          Regression, GVM         fuzzy C-Means

       Discriminant           SVR, GPR            Hierarchical
         Analysis

        Naïve Bayes           Ensemble          Gaussian Mixture
                               Methods

         Nearest              Decision        Hidden Markov Model
         Neighbor              Trees

          Neural              Neural            Neural Networks
         Networks            Networks
```
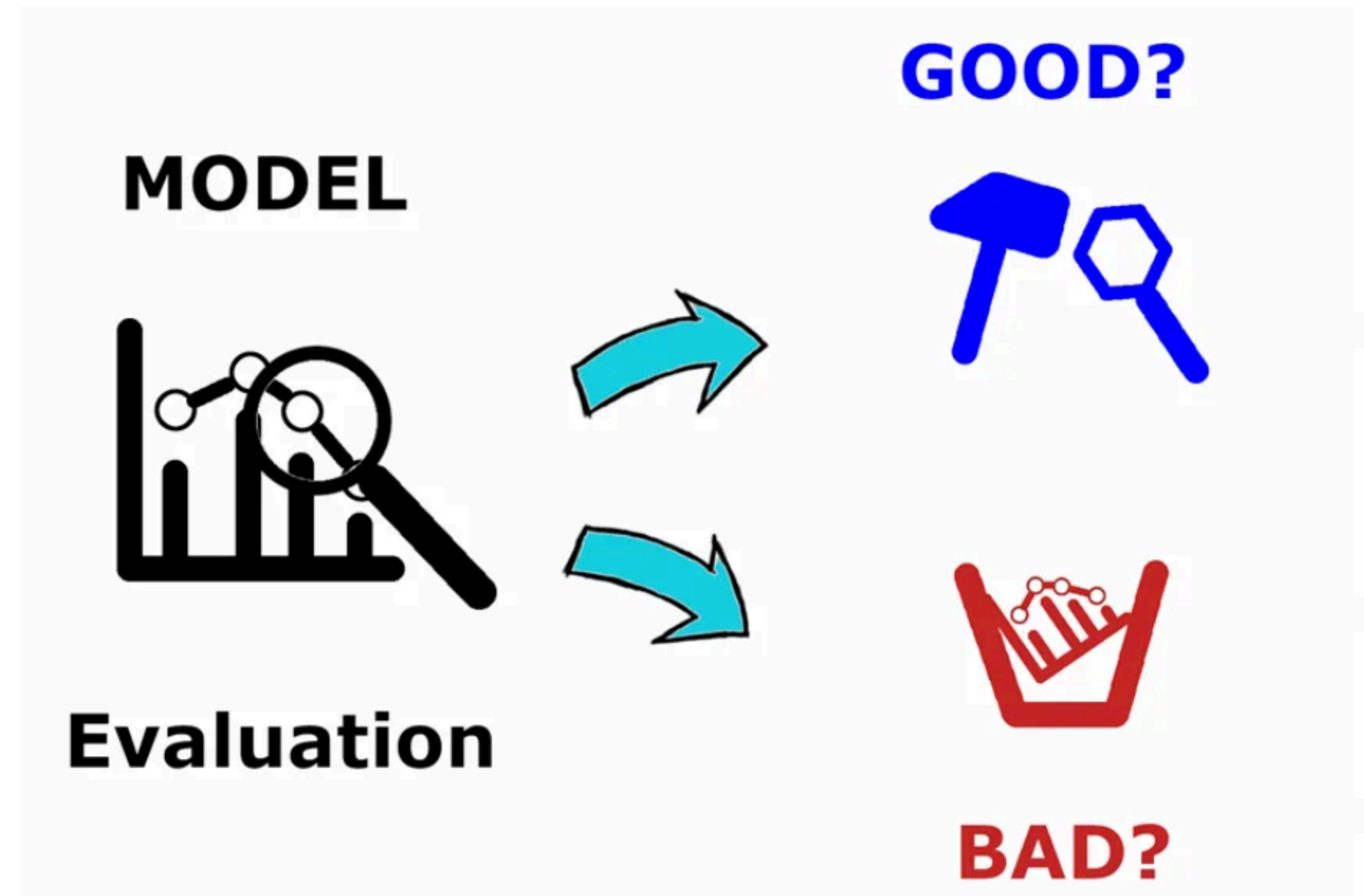
4. Training the Model

4. Training the Model

5. Model Evaluation:

a. Confusion Matrix

b. Precision Score

c. F1 Score

d. Recall

6 Hyperparameter Tuning

Prediction 7