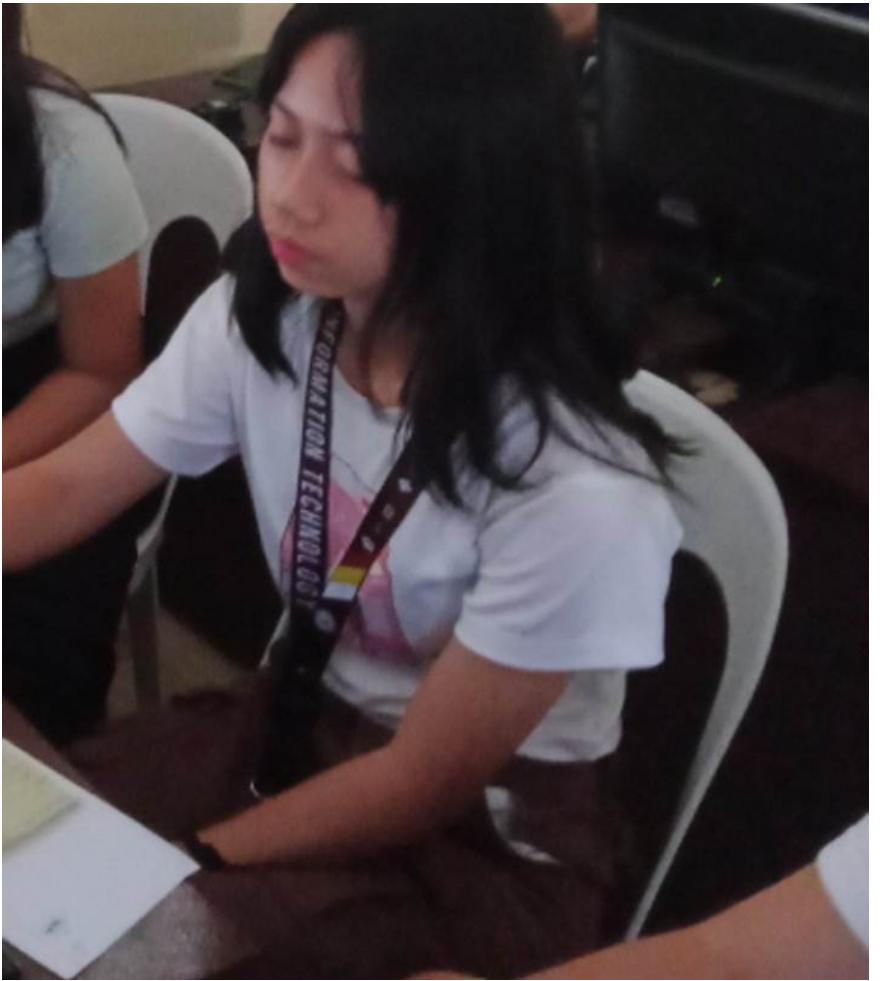


GROUP 8



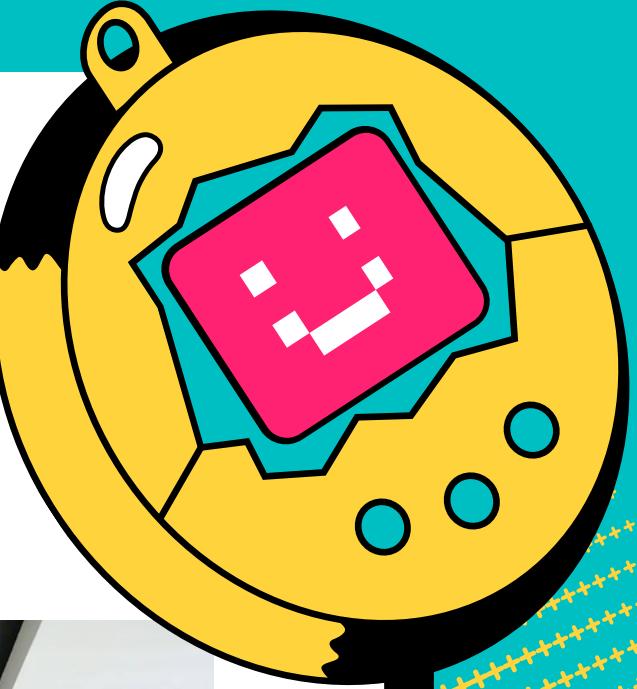
RIZZA DICEN



KYLE MASCUÑANA
JOHN BENZH CUY



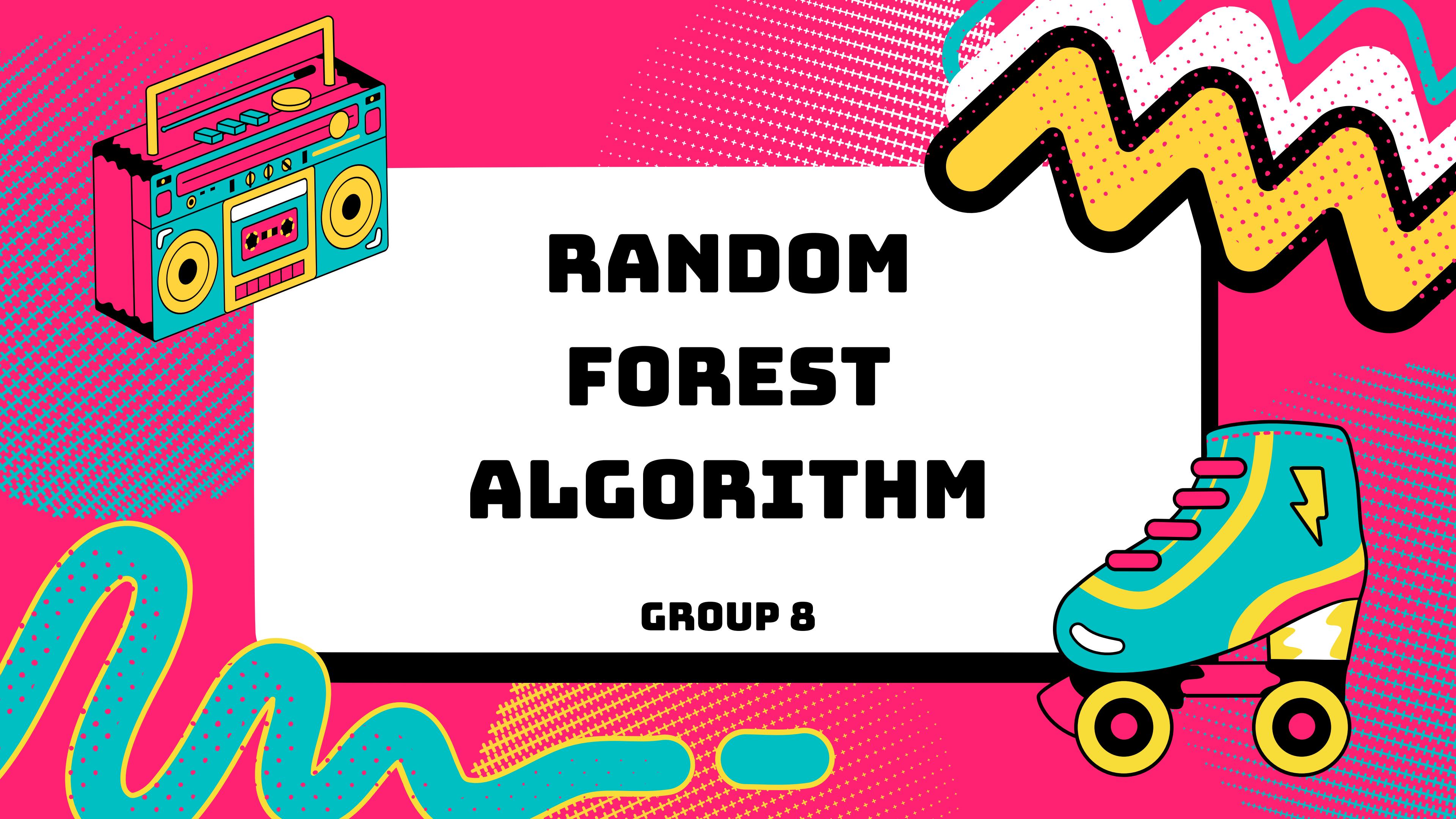
JAY ANN ABELLA





WELCOME TO PRESENTATION

I'm Jay Ann and I'll be sharing with you the Random Forest Algorithm.

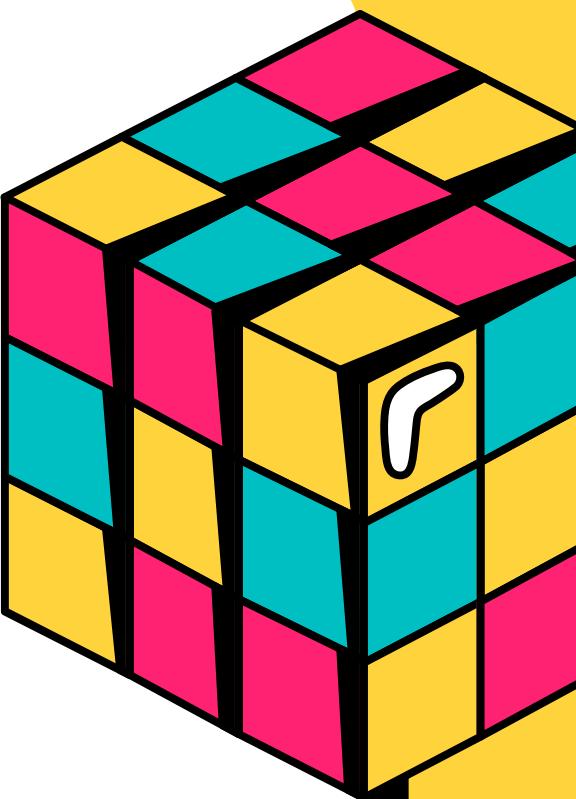


RANDOM FOREST ALGORITHM

GROUP 8

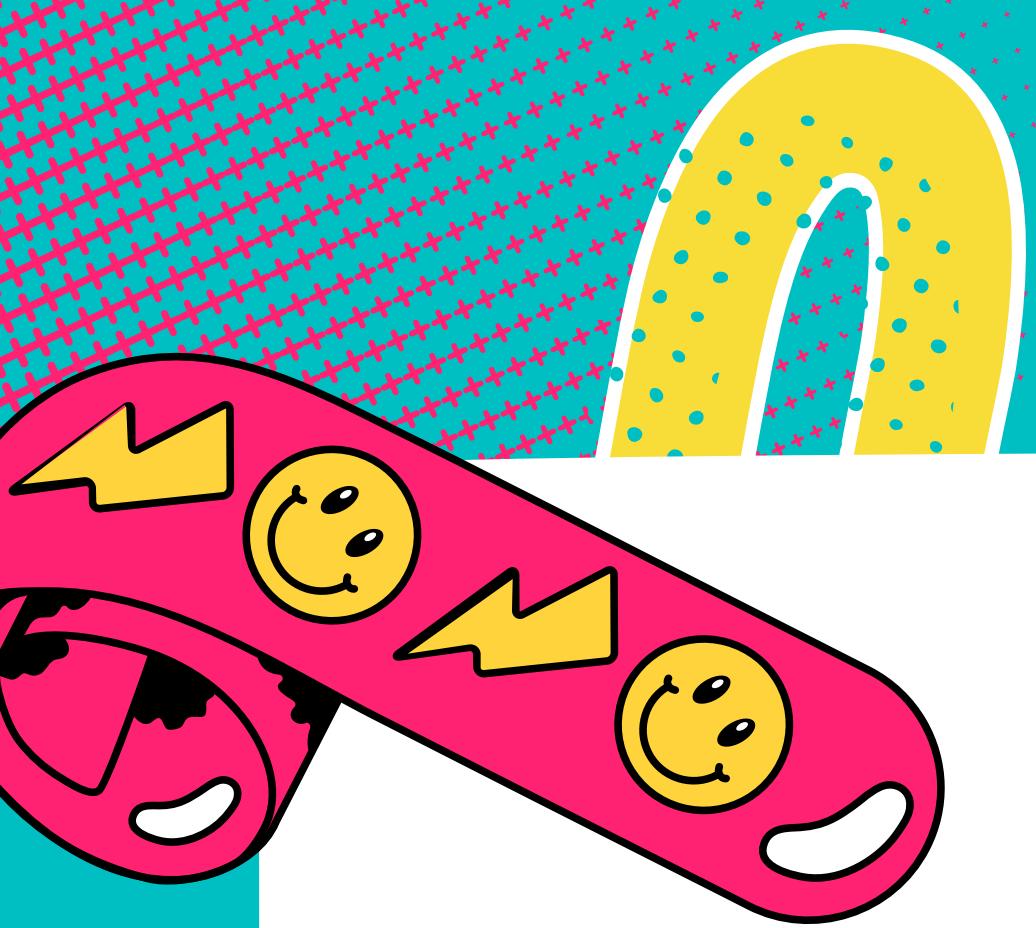


WHAT IS RANDOM FOREST ALGORITHM?



Random forest is a commonly-used machine learning algorithm trademarked by Leo Breiman and Adele Cutler, that is used for both classification and regression which combines the output of multiple decision trees to reach a single result.

Random Forest is particularly useful in the field of big data, where there is a large amount of complex data to be analyzed. The algorithm can handle high-dimensional data, nonlinear relationships, and noisy inputs, which makes it ideal for tasks such as image recognition, speech recognition, and natural language processing.

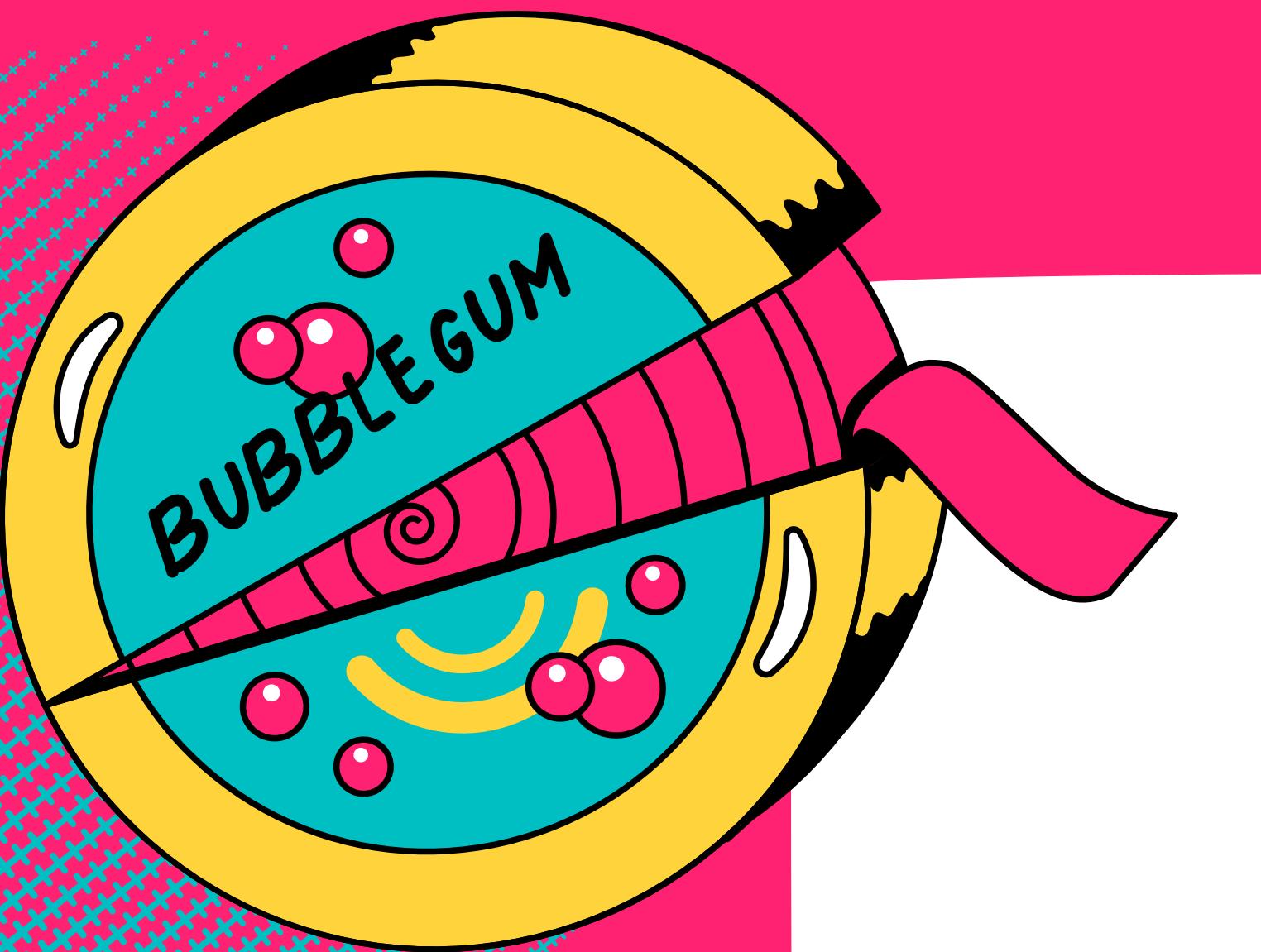


TYPES OF RANDOM FOREST ALGORITHMS



1. Standard Random Forest
2. Extremely Randomized Trees(ExtraTrees)
3. Random Subspace Method
4. Random Forest for Imbalanced Data

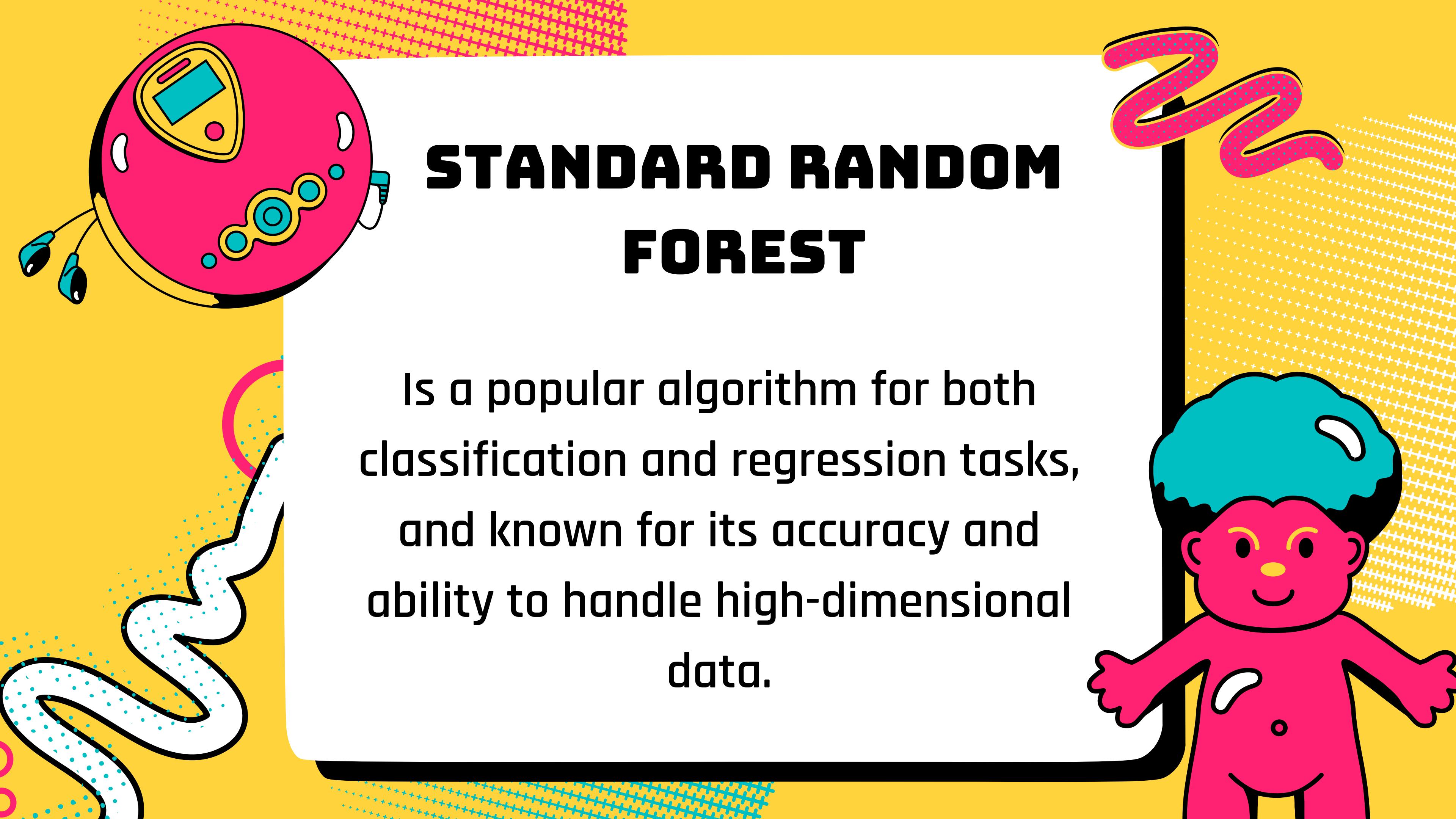
WOO



1.

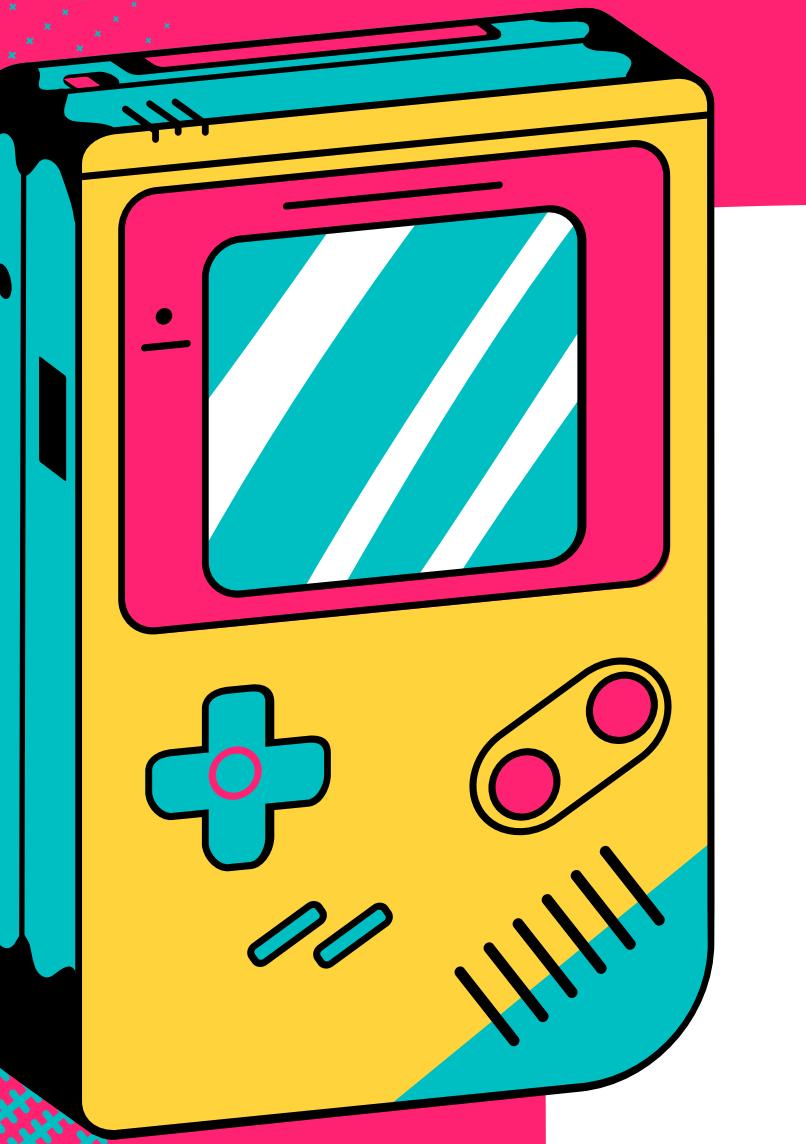
STANDARD RANDOM FOREST





STANDARD RANDOM FOREST

Is a popular algorithm for both classification and regression tasks, and known for its accuracy and ability to handle high-dimensional data.



2.

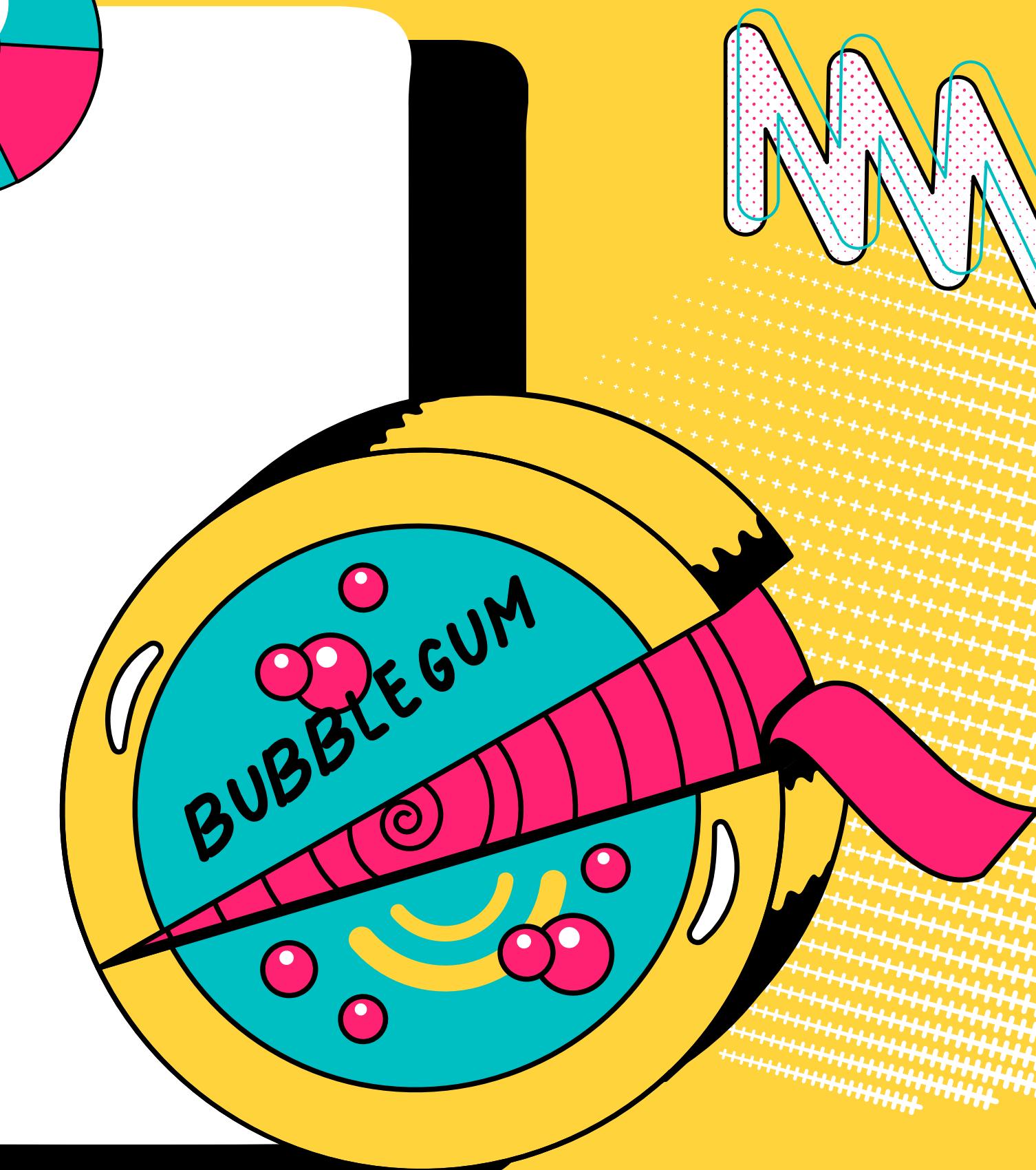
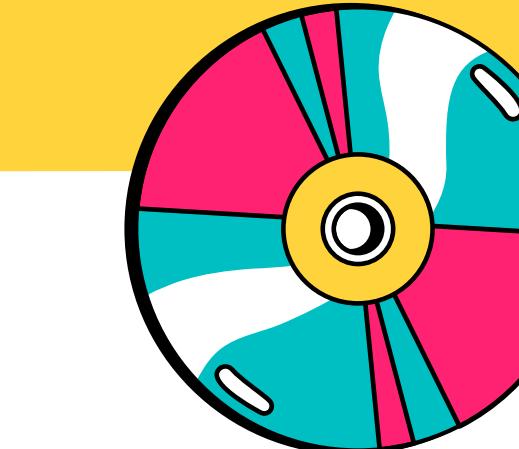
**EXTREMELY
RANDOMIZED
TREES
(EXTRA TREES)**





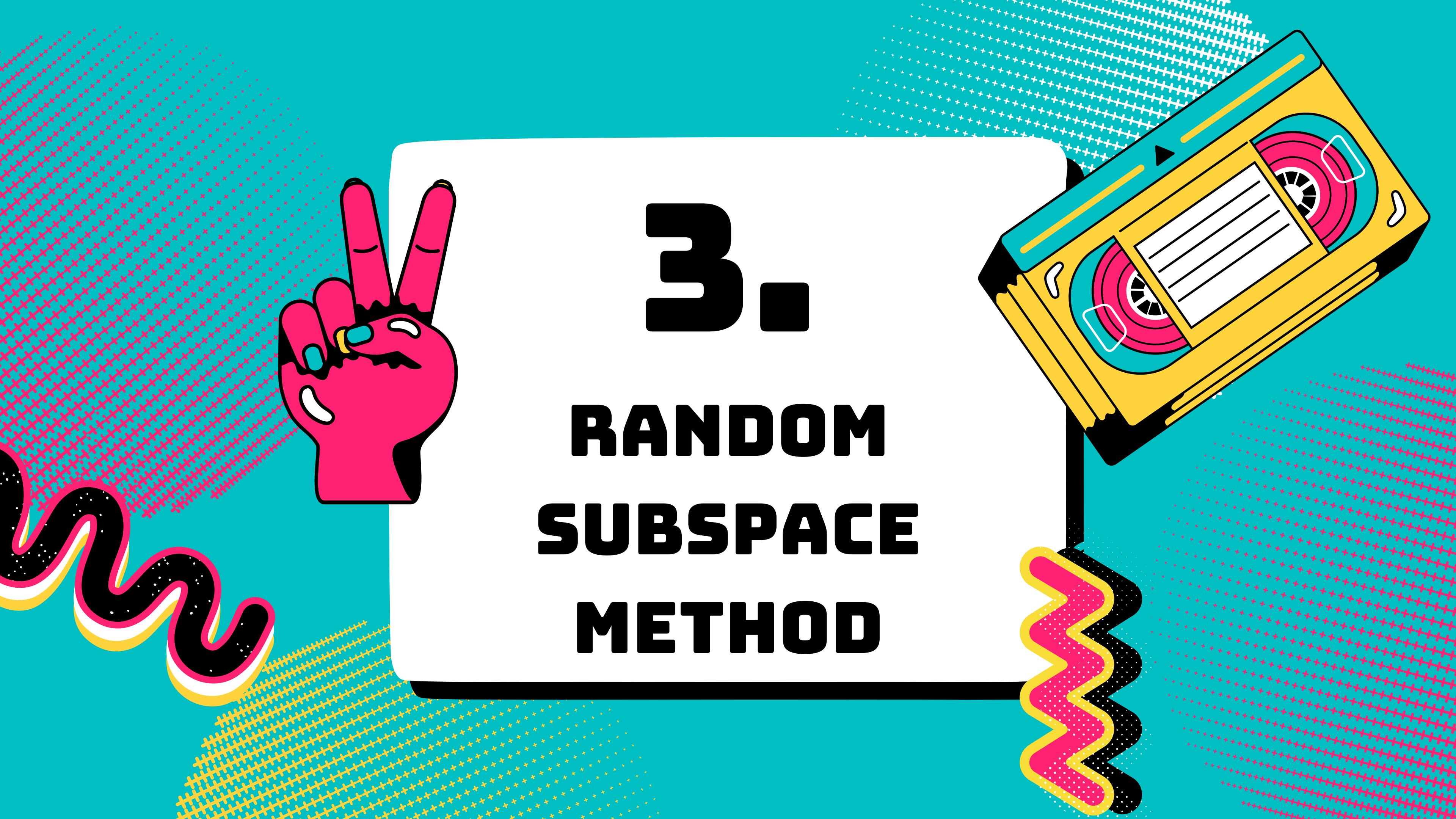
EXTREMELY RANDOMIZED TREES(EXTRA TREES)

Also called Extra Trees, is a machine learning algorithm that's similar to the random forest algorithm. Extra trees is a popular algorithm for classification and regression tasks.



3.

RANDOM SUBSPACE METHOD

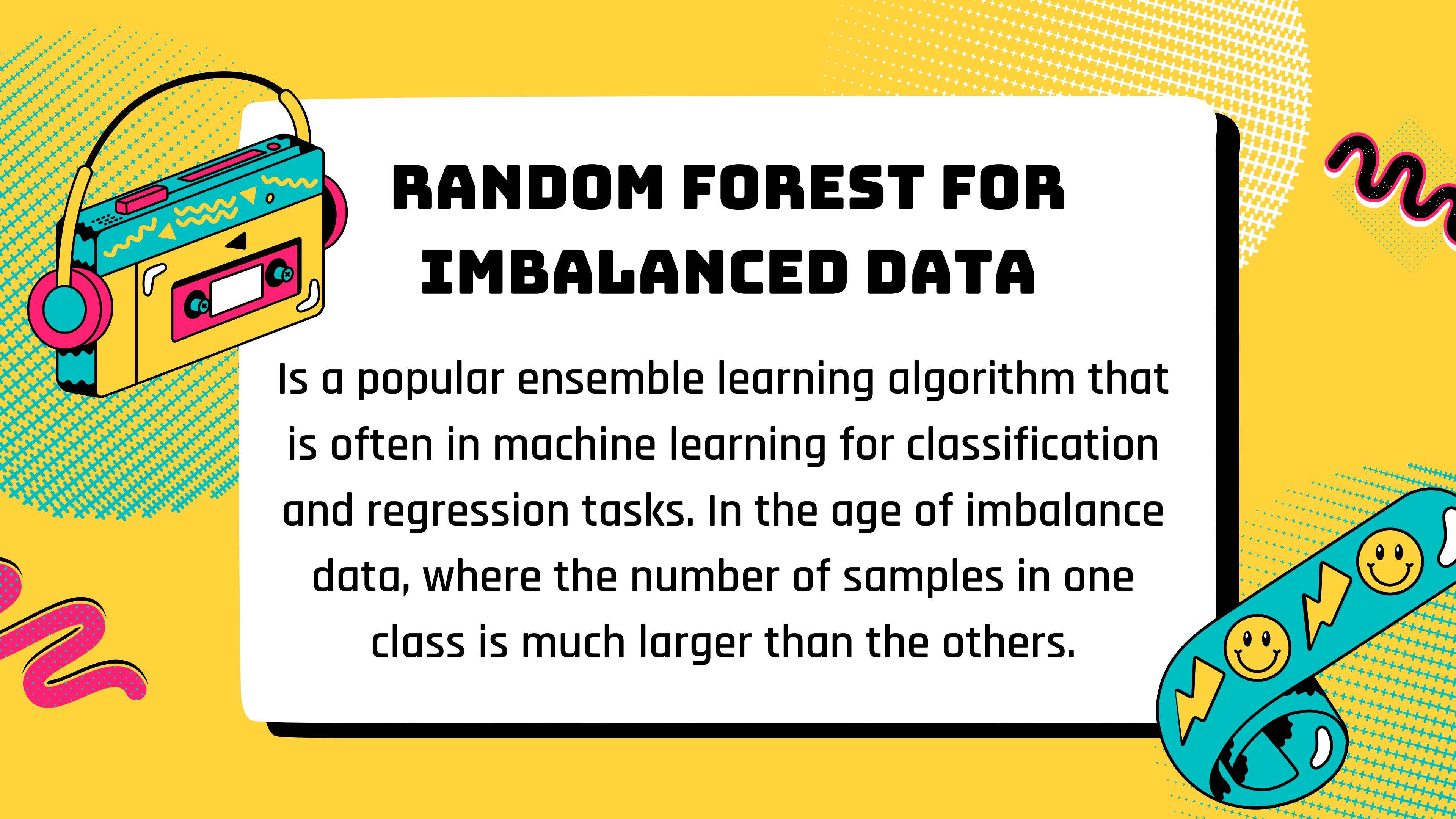


RANDOM SUBSPACE METHOD

Is a useful algorithm for classification and regression tasks, and is commonly used in applications such as natural language processing, and bioinformatics.

4. RANDOM FOREST FOR IMBALANCED DATA

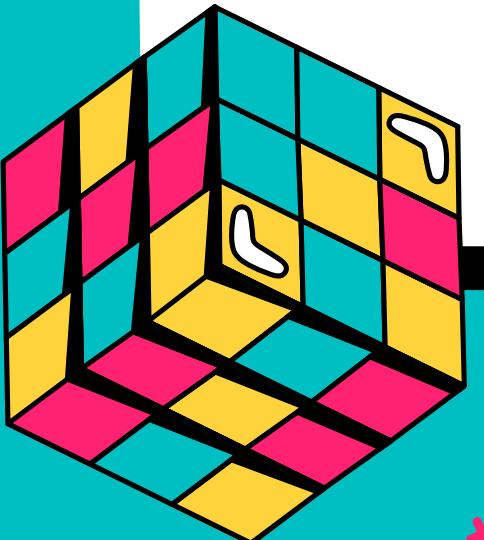


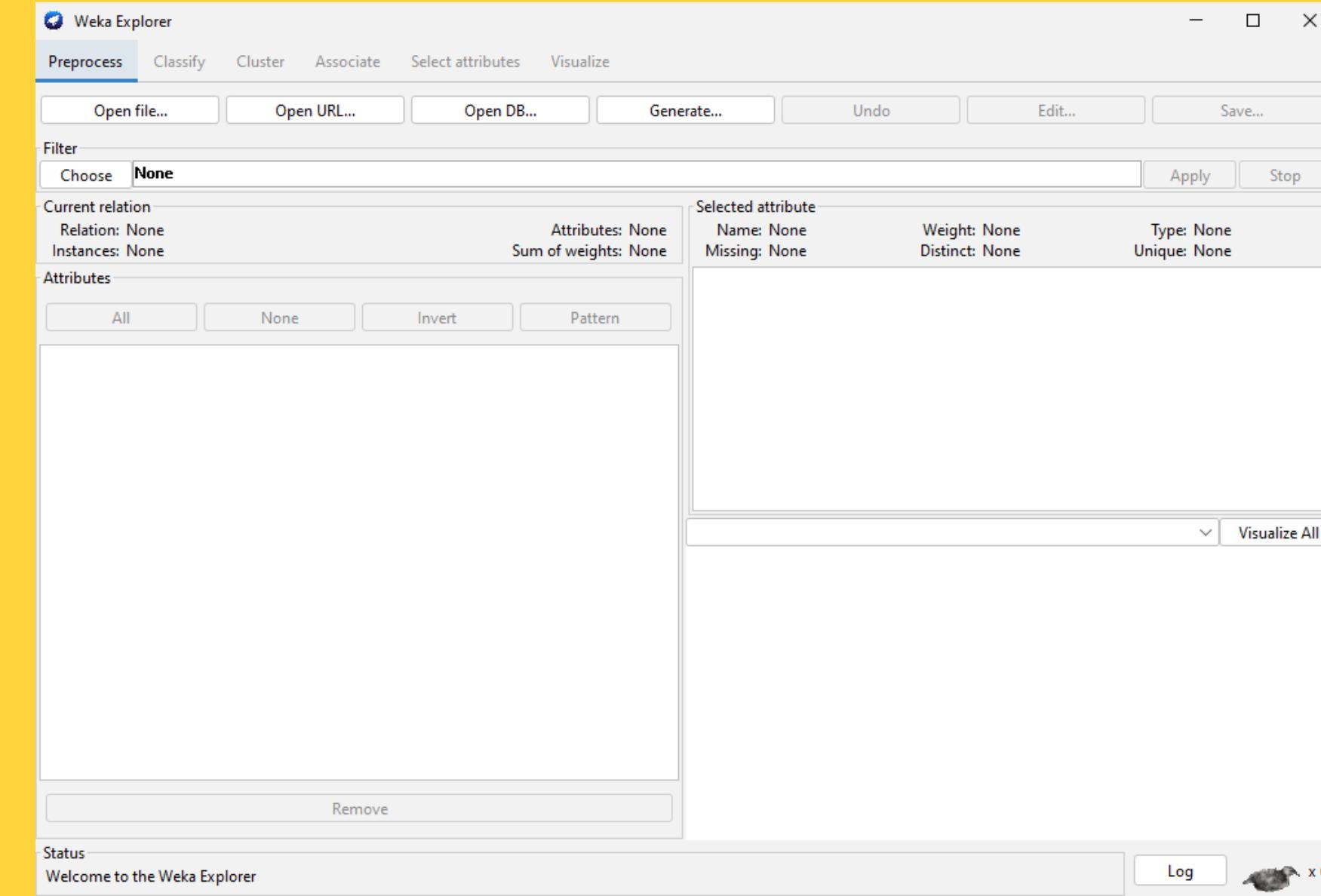


RANDOM FOREST FOR IMBALANCED DATA

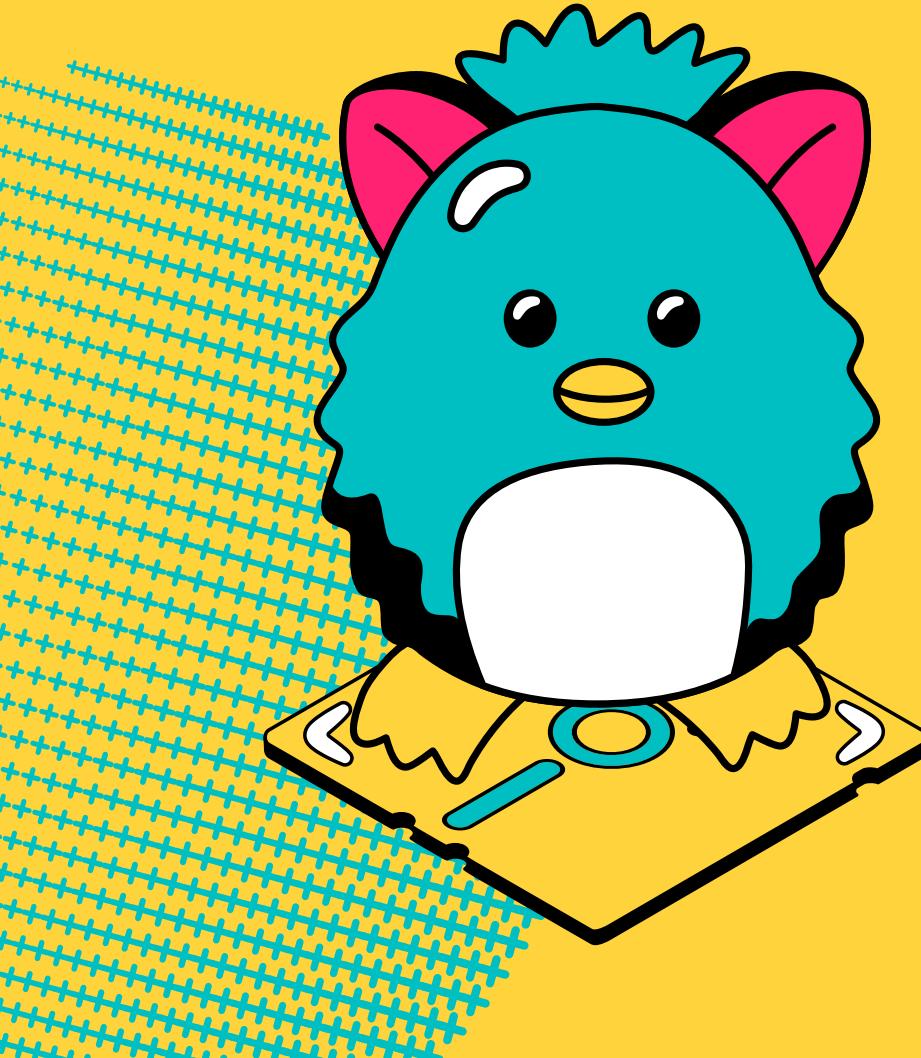
Is a popular ensemble learning algorithm that is often used in machine learning for classification and regression tasks. In the age of imbalance data, where the number of samples in one class is much larger than the others.

RANDOM FOREST ALGORITHM IMPLEMENTATION



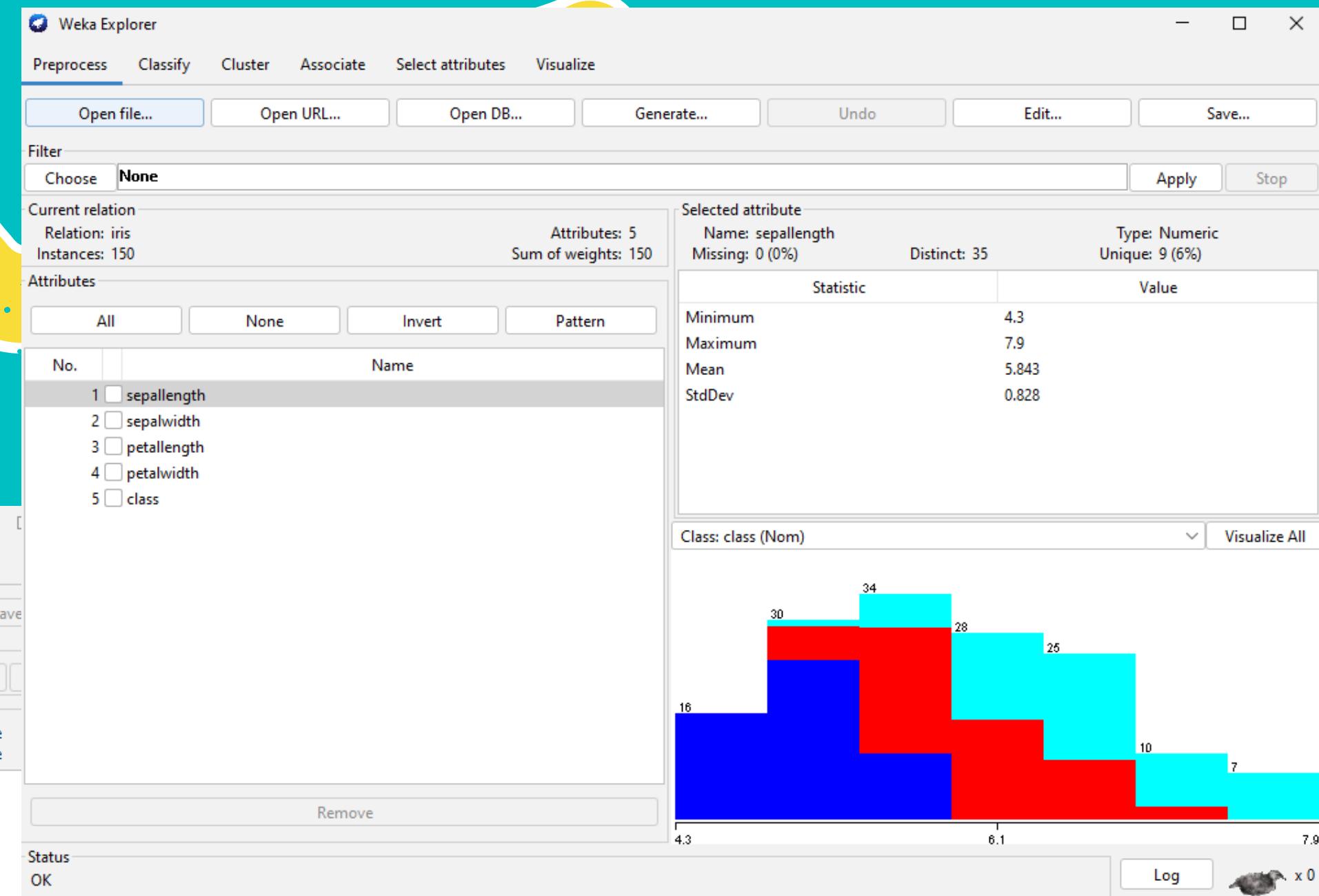
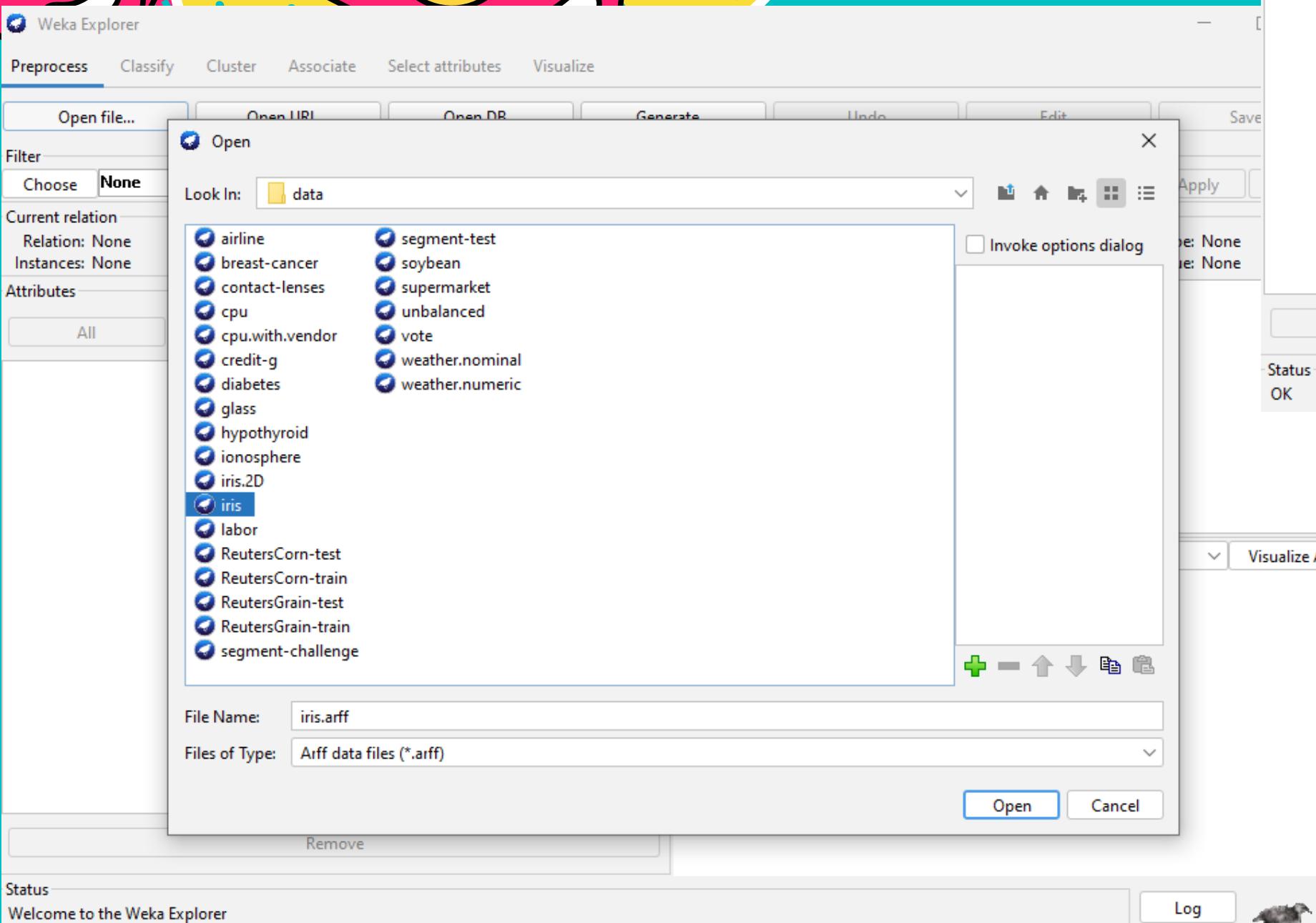


**STEP 1.
OPEN YOUR WEKA
AND SELECT
EXPLORER**



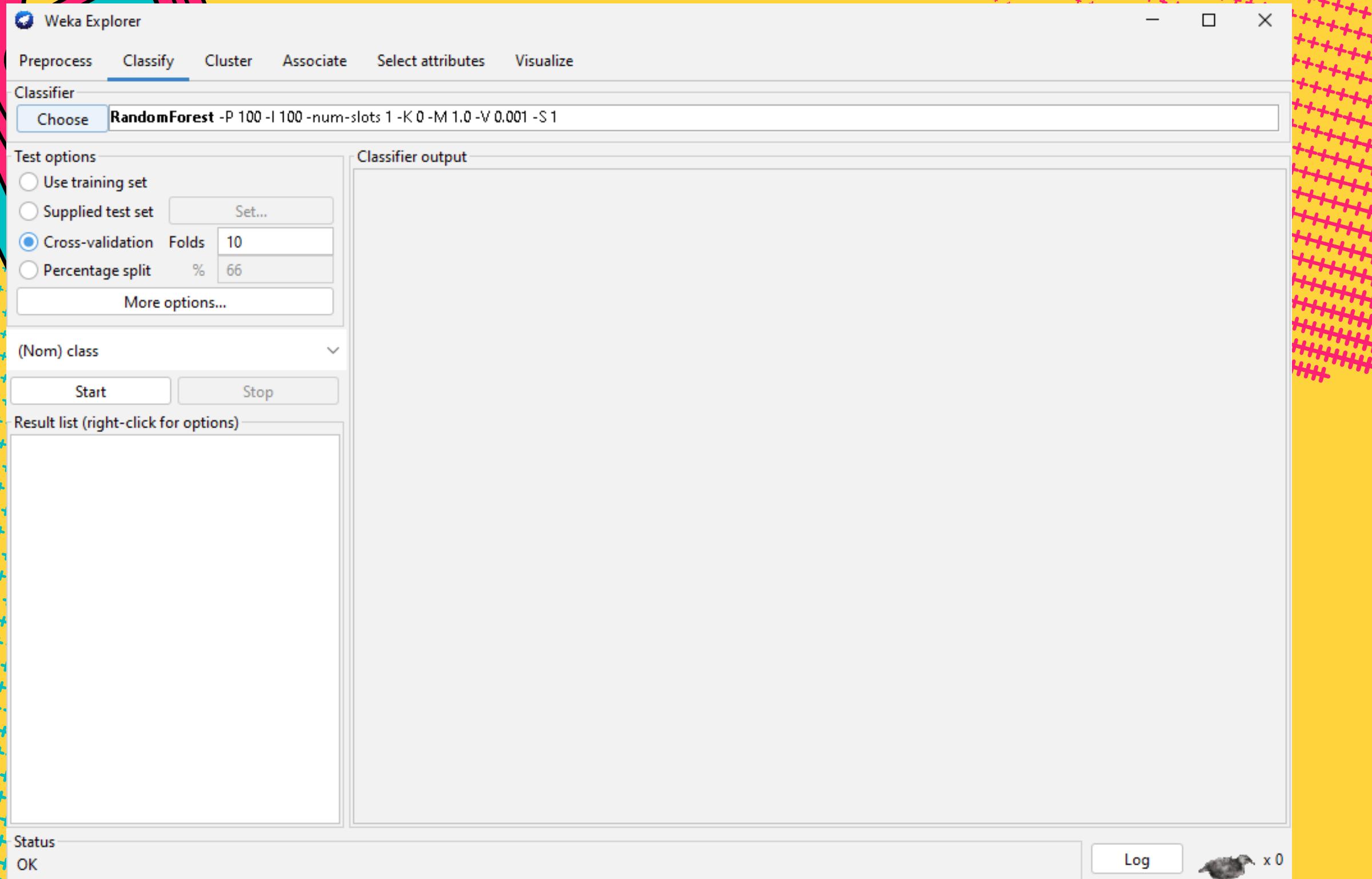
STEP 2.

OPEN FILE AND SELECT/OPEN IRIS.ARFF FILE



STEP 3.

**SELECT CLASIFY AND
CHOOSE TREES, UDER
THREE SELECT
RANDOM FOREST**



Weka Explorer

Preprocess Classify Cluster Associate Select attributes Visualize

Classifier

Choose **RandomForest** -P 100 -I 100 -num-slots 1 -K 0 -M 1.0 -V 0.001 -S 1

Test options

Use training set
 Supplied test set Set...
 Cross-validation Folds 10
 Percentage split % 66
More options...

(Nom) class

Start Stop

Result list (right-click for options)

20:07:28 - trees.RandomForest

Classifier output

```
== Stratified cross-validation ==
== Summary ==
Correctly Classified Instances      143          95.3333 %
Incorrectly Classified Instances    7           4.6667 %
Kappa statistic                   0.93
Mean absolute error               0.0408
Root mean squared error          0.1621
Relative absolute error          9.19 %
Root relative squared error     34.3846 %
Total Number of Instances        150
```

```
== Detailed Accuracy By Class ==

```

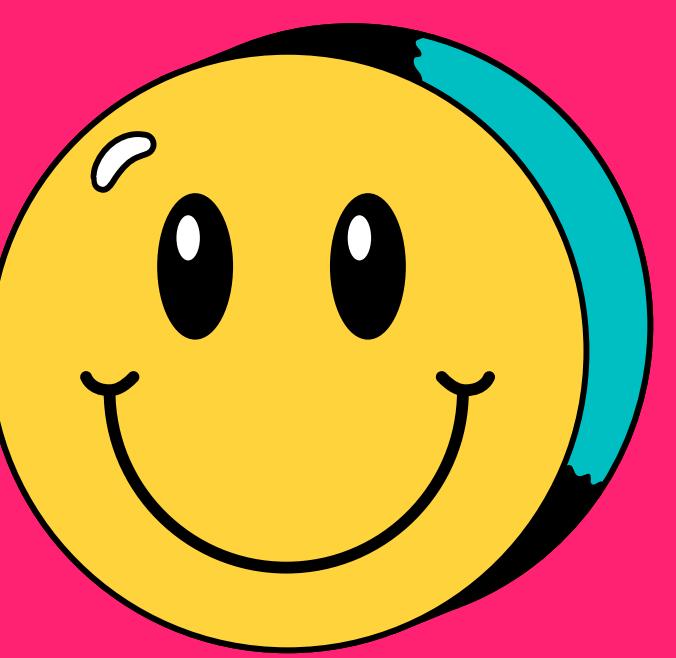
	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
Iris-setosa	1.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	Iris-setosa
Iris-versicolor	0.940	0.040	0.922	0.940	0.931	0.896	0.991	0.984	Iris-versicolor
Iris-virginica	0.920	0.030	0.939	0.920	0.929	0.895	0.991	0.982	Iris-virginica
Weighted Avg.	0.953	0.023	0.953	0.953	0.953	0.930	0.994	0.989	

```
== Confusion Matrix ==

```

	a	b	c	<-- classified as
a	50	0	0	a = Iris-setosa
b	0	47	3	b = Iris-versicolor
c	0	4	46	c = Iris-virginica

Status OK Log x 0



**AFTER SELECTING
RANDOM FOREST
CLICK START TO RUN
AND SEE THE
RANDOM FOREST
OUTPUT**

RESOURCE PAGE

Use these design resources in your
Canva Presentation. Happy designing!

Don't forget to delete this page
before presenting.



