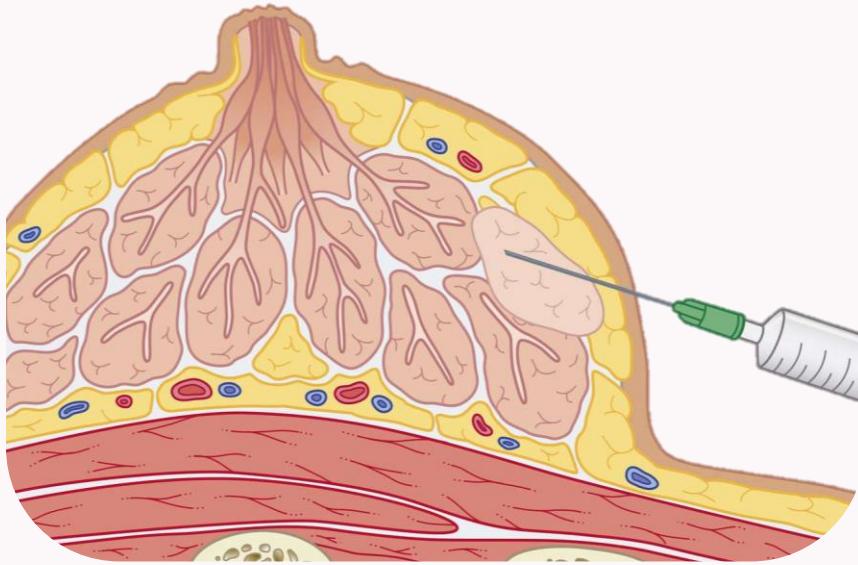
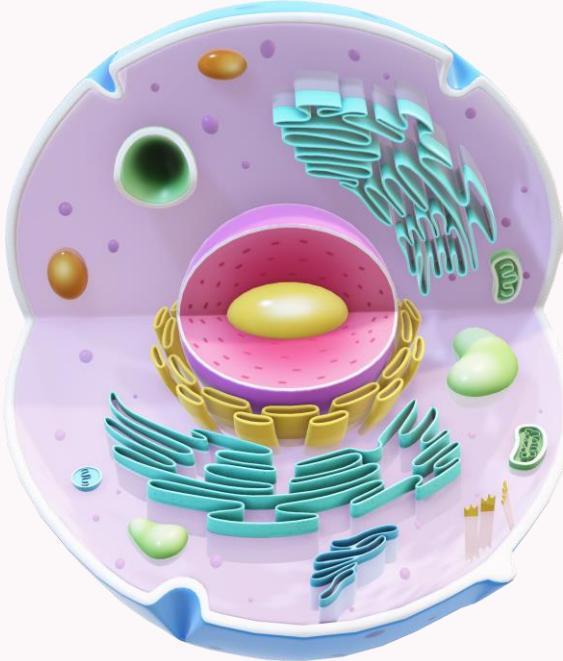


# Breast Cancer Prediction



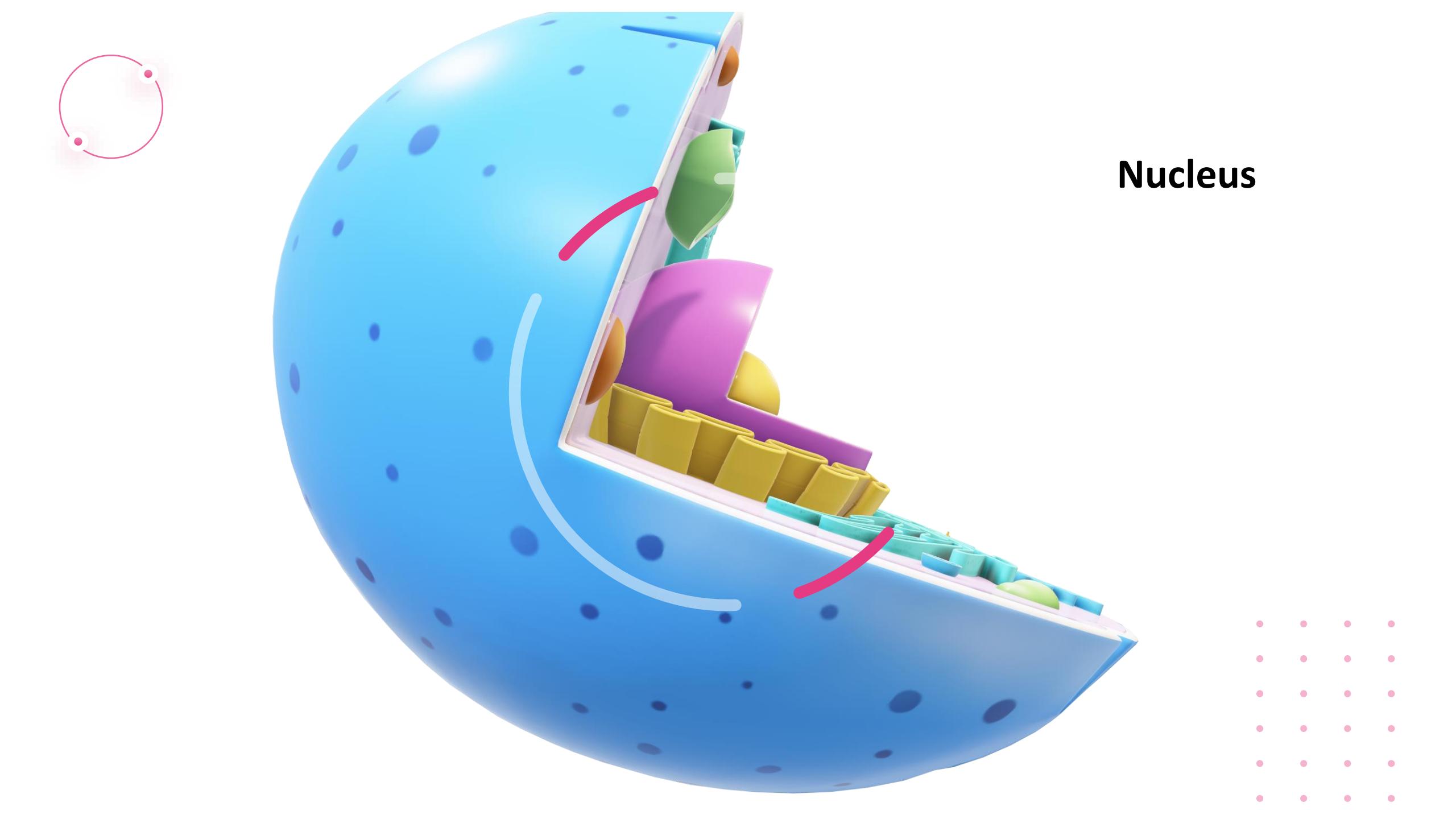


## Fine Needle Aspiration (FNA) of breast masses

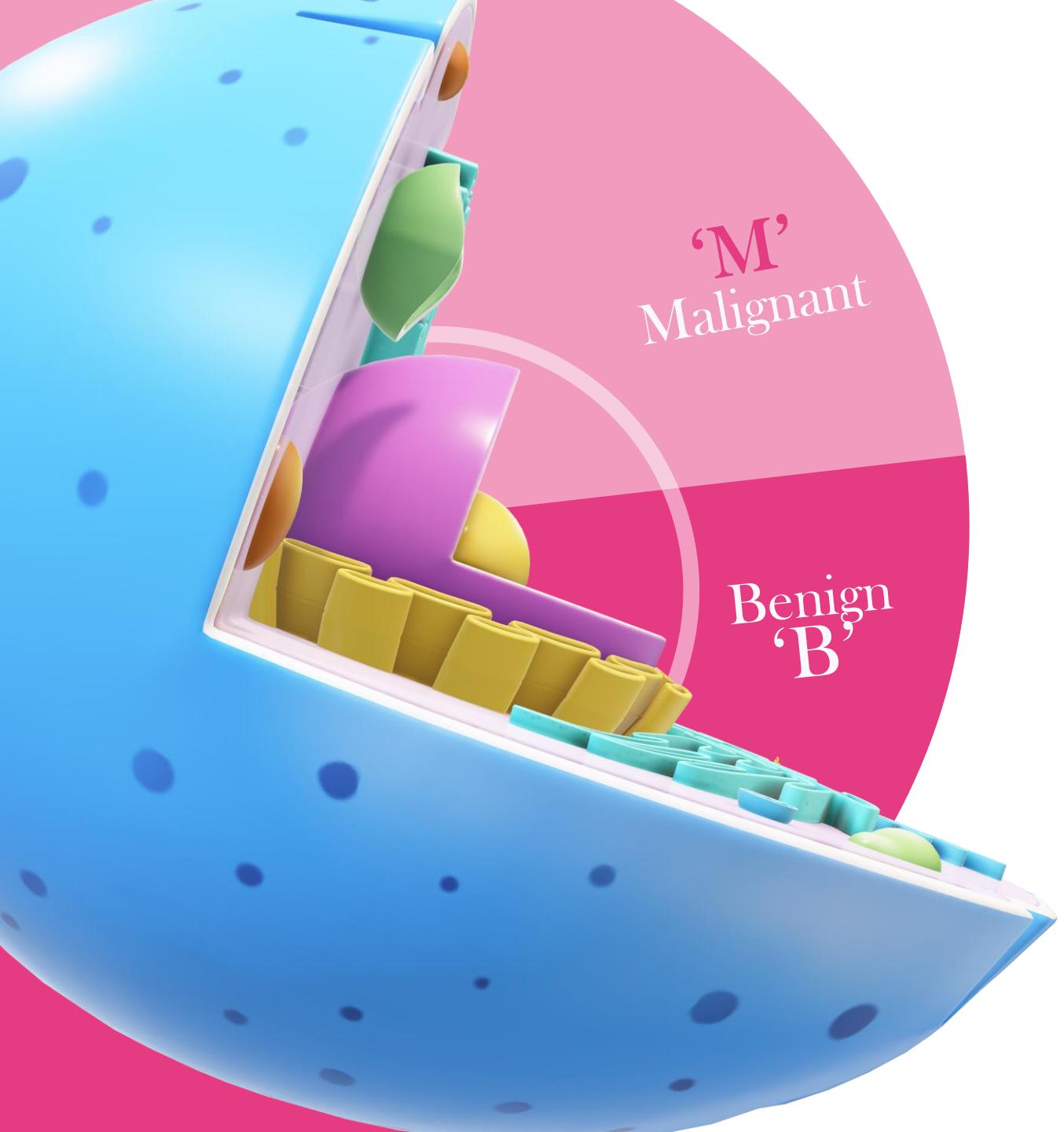


**Cells are tiny building  
blocks**





**Nucleus**



## Real Valued Features of the Nucleus

- Radius
- Texture
- Perimeter
- Area
- Smoothness
- Compactness
- Concave points
- Symmetry
- Fractal dimension
- Fractal geometry

# **DATASET DESCRIPTION**

## **Dataset Description**

ID Number  
Diagnosis

## **Real Valued Features of Nucleus**

- Radius
- Texture
- Perimeter
- Area
- Smoothness
- Compactness
- Concave points
- Symmetry
- Fractal dimension
- Fractal geometry



**33**

Number of Columns

**3**

Column Categories

**10**

No. features each

Mean

Std. Error

Worst Values

**Data examination**

**Data clear**

Checked for  
**missing values**

Checked for  
**duplicate rows**

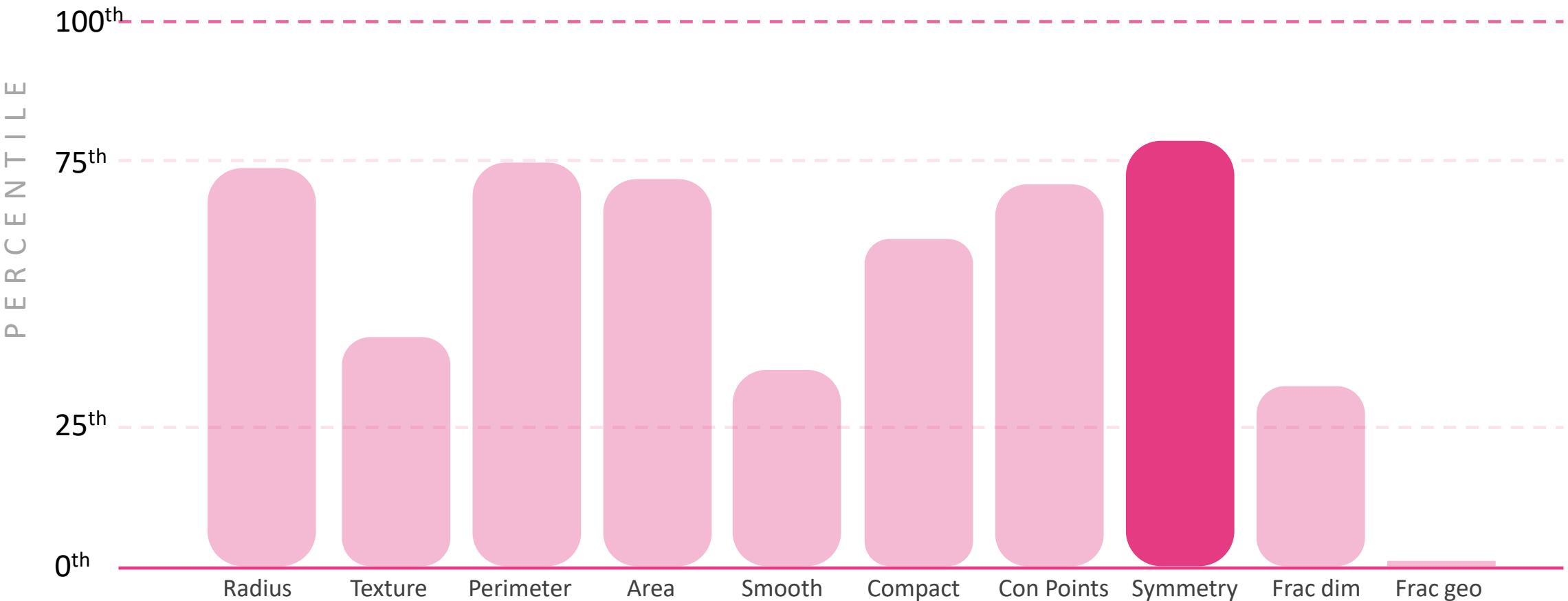


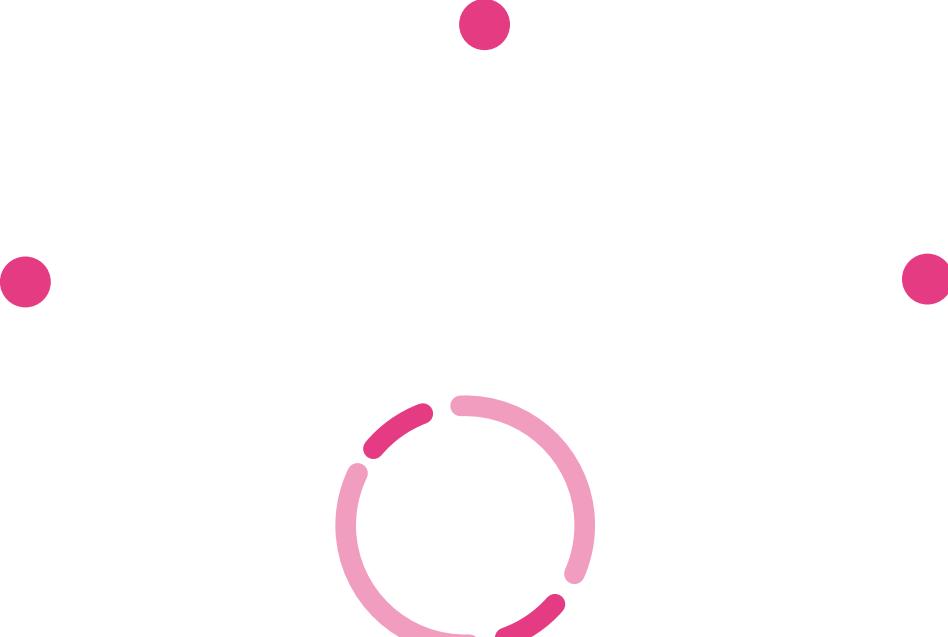
Converted  
**diagnosis** column  
to binary.

---

Data cleaning

# Correlation Between Diagnosis and Variables





**Logistic Regression**  
**97%**  
Accuracy

## Training Models

- Logistic Regression (**0.97**)
- Support Vector Machine (**0.96**)
- Gradient Boosting Classifier (**0.96**)
- Artificial Neural Network (**0.96**)
- Random forest (**0.95**)
- K-Nearest Neighbors (**0.95**)
- Naïve Bayes (**0.95**)
- Decision Tree (**0.95**)



# Nuclear Features of Malignancy

Radius worst: **13.38**  
Fractal dimension mean: **0.063**  
Concave points worst: **0.074**  
Concavity mean: **0.046**  
Compactness worst: **0.183**  
Perimeter standard error: **2**



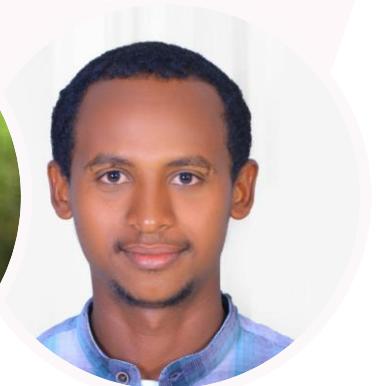
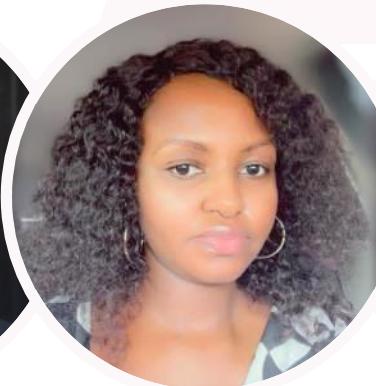
Benign

Radius worst: **21.135**  
Fractal dimension mean: **0.063**  
Concave points worst: **0.182**  
Concavity mean: **0.161**  
Compactness worst: **0.375**  
Perimeter standard error: **4.324**



Malignant

# SOS Pi Group 4





# MAVIS

Our lovely head tutor ❤️





ISOS Pi Group 4

Thank  
you!



