

An isometric illustration of a desk setup. In the center is a laptop with a blue body and a screen displaying a grid pattern. To the top left is a map of the Atlantic Ocean with a blue line indicating the Titanic's route. To the left of the laptop is a stack of three books. To the right is a yellow cylindrical pen holder containing three pens. In the bottom left is a potted plant with long, pointed leaves. In the bottom right is a computer monitor displaying a web browser interface. The entire scene is set against a solid blue background.

# TITANIC

**WAS IT BETTER TO BE RICH,  
LUCKY, OR JUST NEAR A  
LIFEBOAT ON THE TITANIC?**

let's figure out!!

# INTRODUCTION

"The Titanic disaster of 1912 claimed over 1,500 lives, but could survival have been predicted based on passenger data? This project explores the question: "Could your ticket class, age or gender have saved you on the Titanic? Let the data speak !!!!!"

# HOW IS THAT GOING ?

1

STEP

Collect and  
clean the data  
&  
visualisation

2

STEP

Random Forest  
  
Developing a  
model from  
scratch to predict  
based on the  
KNN algorithm  
and comparing it  
with the  
implementation  
in scikit-learn.

3

STEP

KNN  
  
Developing a  
model from  
scratch to predict  
based on the KNN  
algorithm and  
comparing it with  
the  
implementation  
in scikit-learn.

4

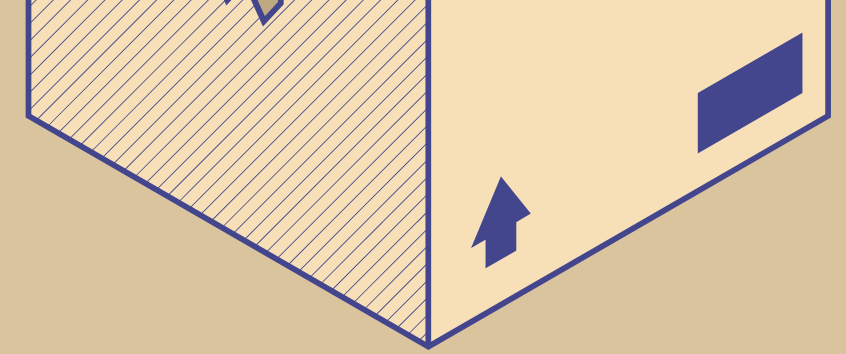
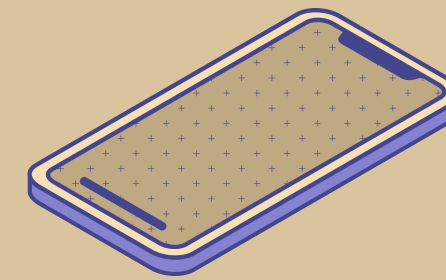
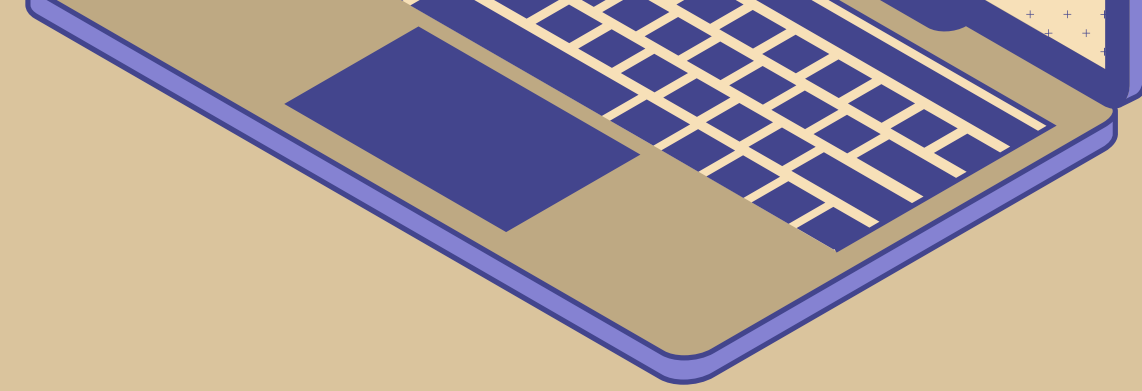
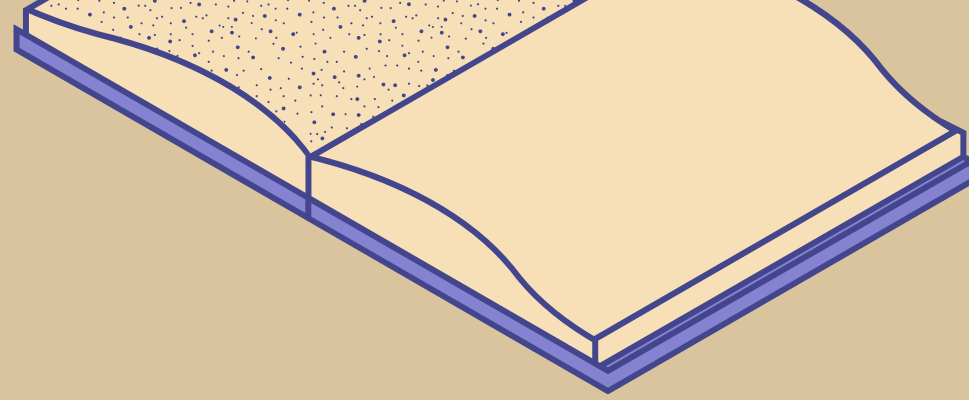
STEP

make a  
conclusion  
  
now we gonna decide  
if you gonna survive or  
not :/

5

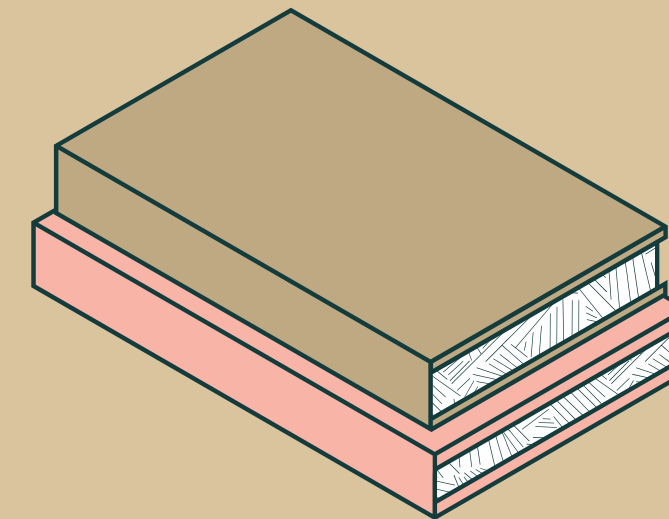
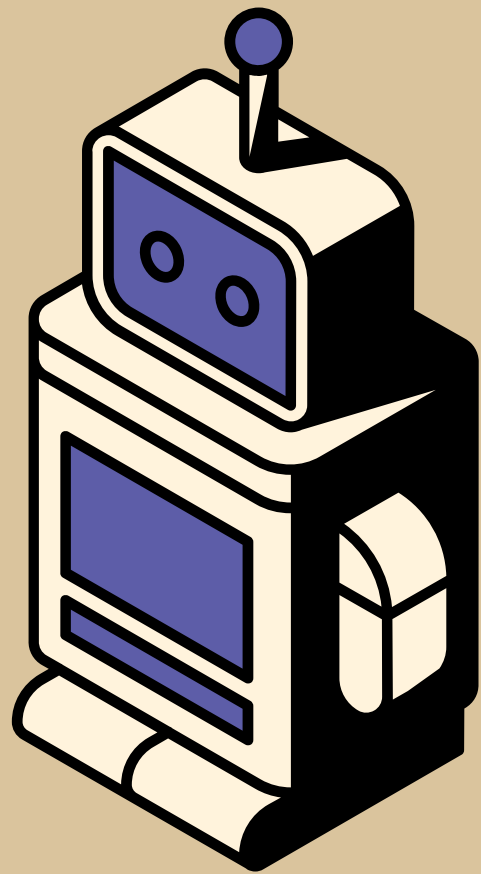
STEP

coding part  
  
fun part!!!!



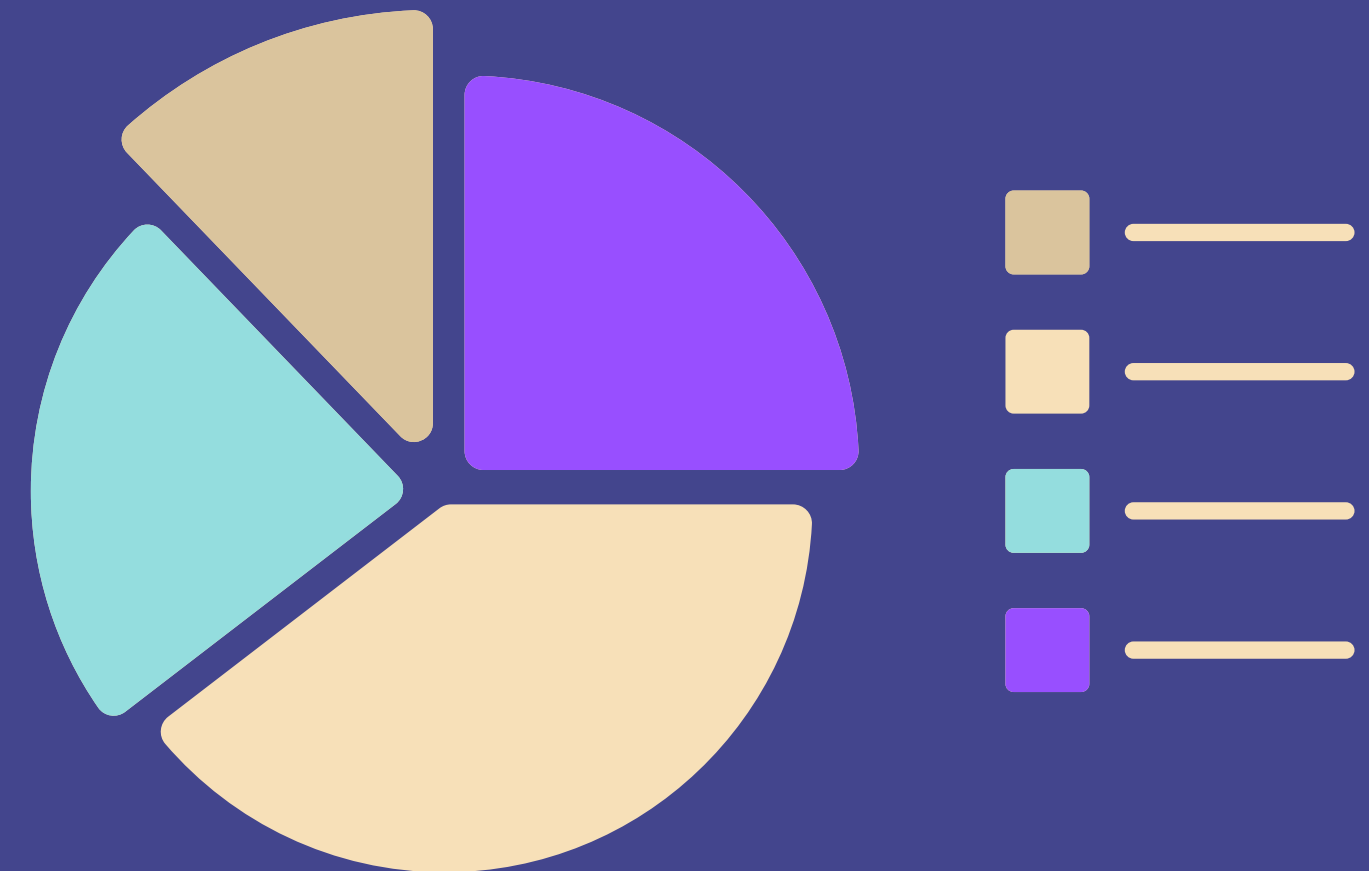
# COLLECTING DATA AND KEY FEATURS

- **Survived:** Whether the passenger survived (1) or not (0).
- **Pclass:** Passenger's ticket class (1st, 2nd, 3rd).
- **Sex\_encoded:** Gender of the passenger (0 for male, 1 for female).
- **Age:** Age of the passenger.
- **SibSp:** Number of siblings or spouses the passenger was traveling with.
- **Parch:** Number of parents or children the passenger was traveling with.
- **Fare:** The price of the passenger's ticket.
- **Embarked\_encoded:** Port of embarkation (0 for Cherbourg, 1 for Queenstown, 2 for Southampton).



# VISUALISATION

- DID GENDER AFFECT SURVIVAL RATES?
- WAS TICKET CLASS LINKED TO SURVIVAL?
- HOW DID AGE IMPACT THE CHANCES OF SURVIVAL?



NUMBER OF  
PASSENGERS

1309

MEAN  
FARE

33.30\$

NUMBER OF  
FEMALES

466.

NUMBER OF  
MALES

843.

NUMBER OF  
SURVIVORS

500.

NUMBER OF  
PASSENGERS  
1ST CLASS

323.

NUMBER OF  
PASSENGERS  
2ND CLASS

277.

NUMBER OF  
PASSENGERS  
3ND CLASS

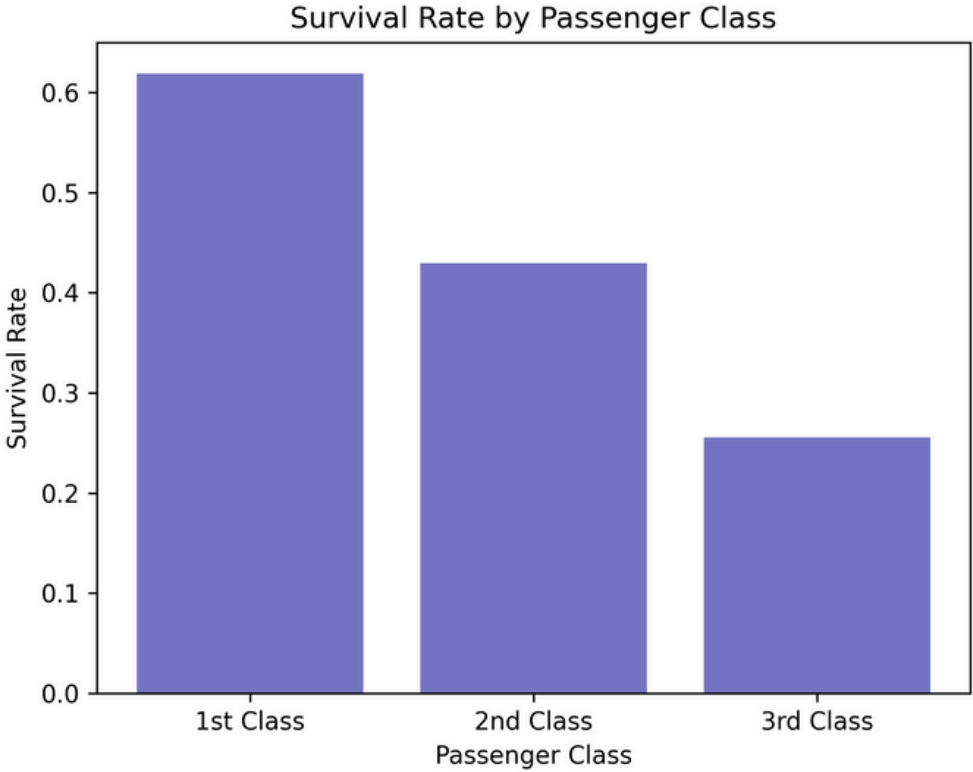
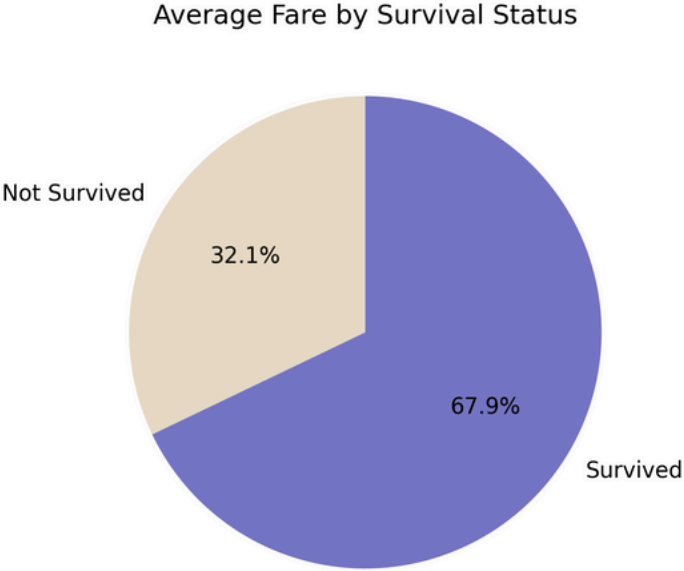
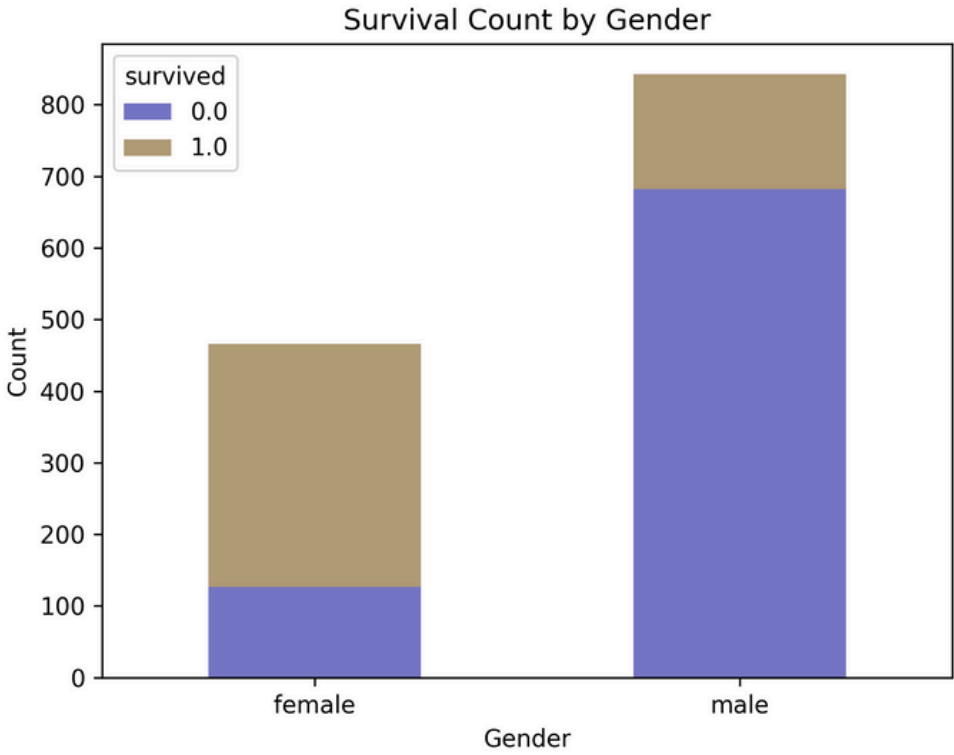
709.

MEAN  
AGE

30 YEARS

NUMBER OF  
NOT  
SURVIVORS

809.



# RANDOM FOREST

DECISION TREE  
BOOTSTRAP  
BAGGING  
AND HOW THAT ALL WORK  
TOGETHER TO MAKE RANDOM FOREST



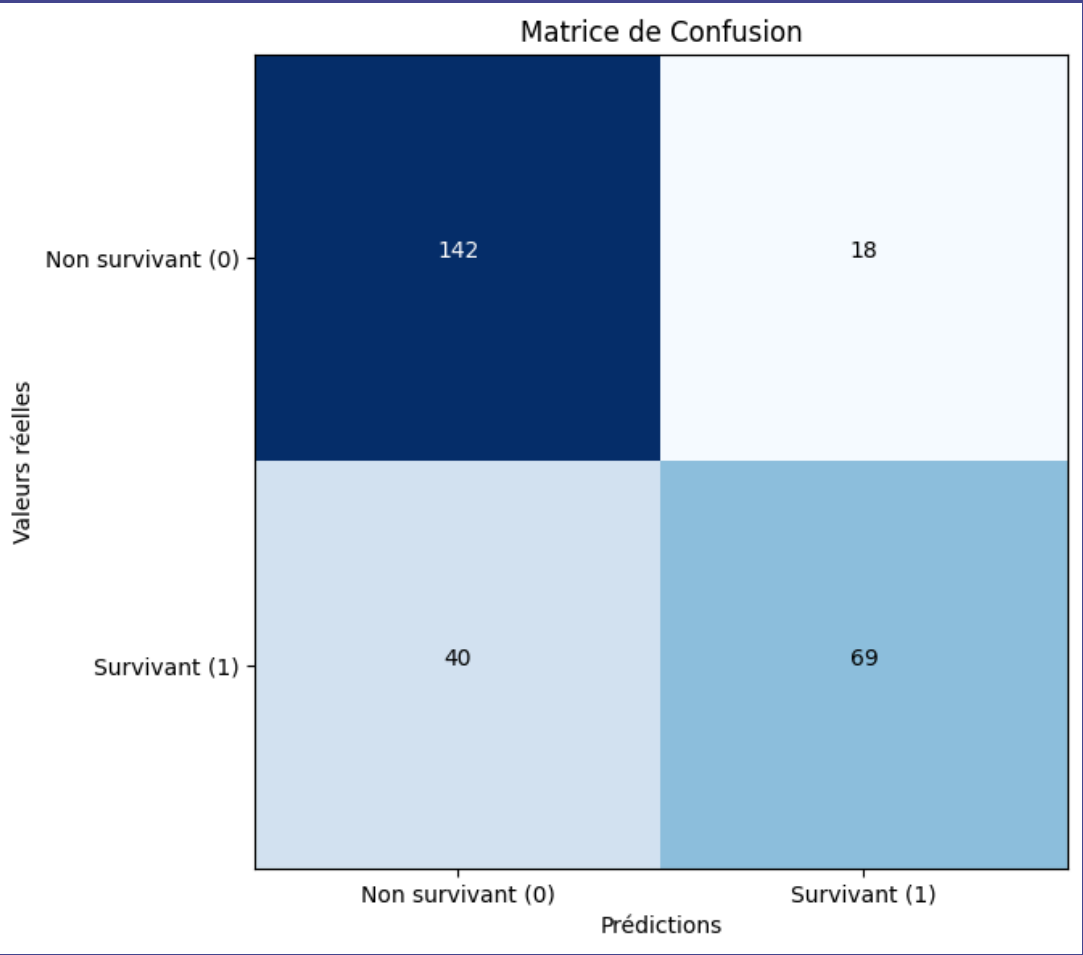
# OUR MODELE VS SCIKIT-LEARN

ACCURACY

0.78

F1 SCORE

0.75

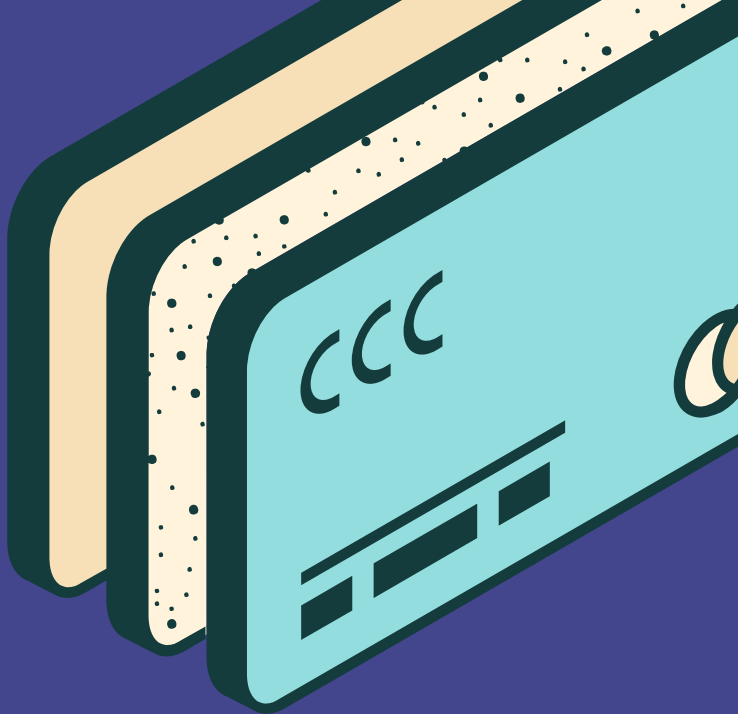
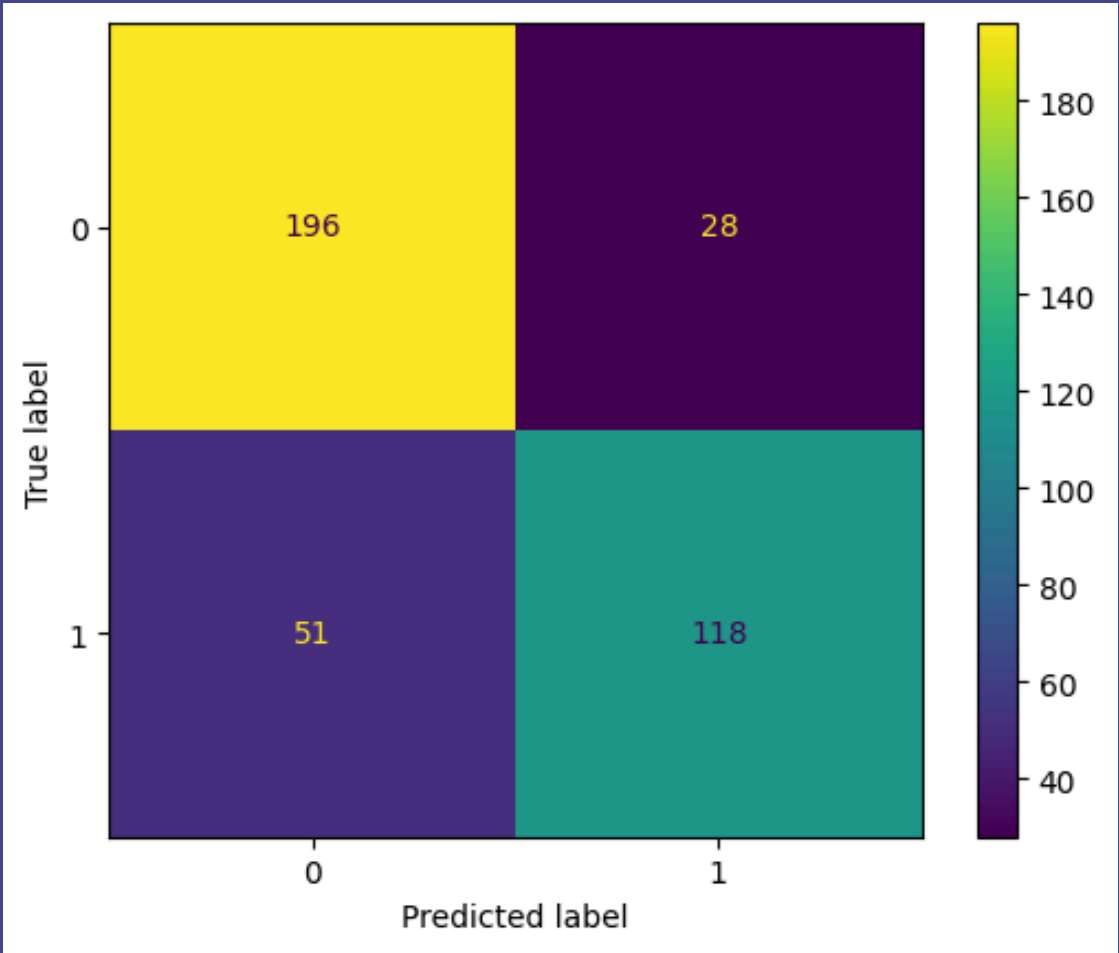


ACCURACY

0.7989

F1 SCORE

0.7492





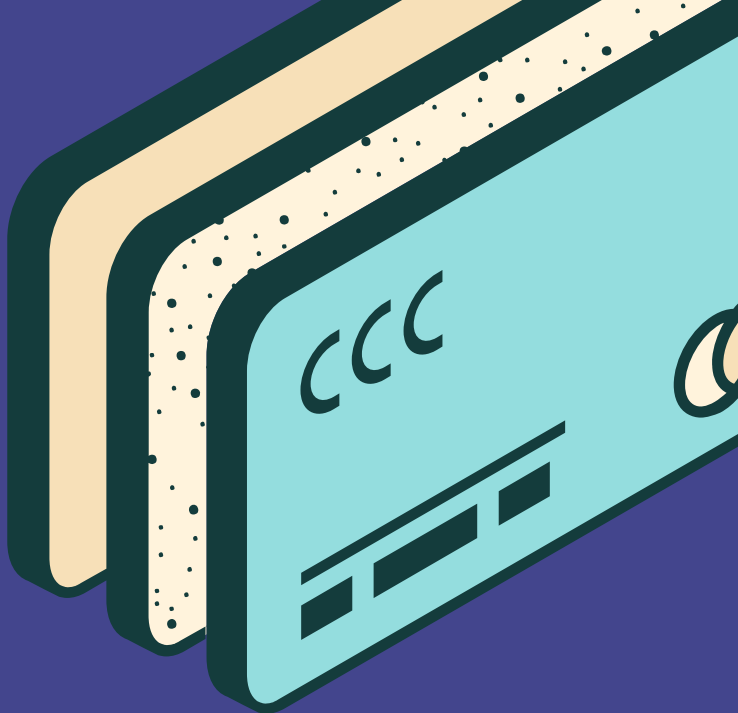
# KNN ALGORITHM

KNN PRINCIPE

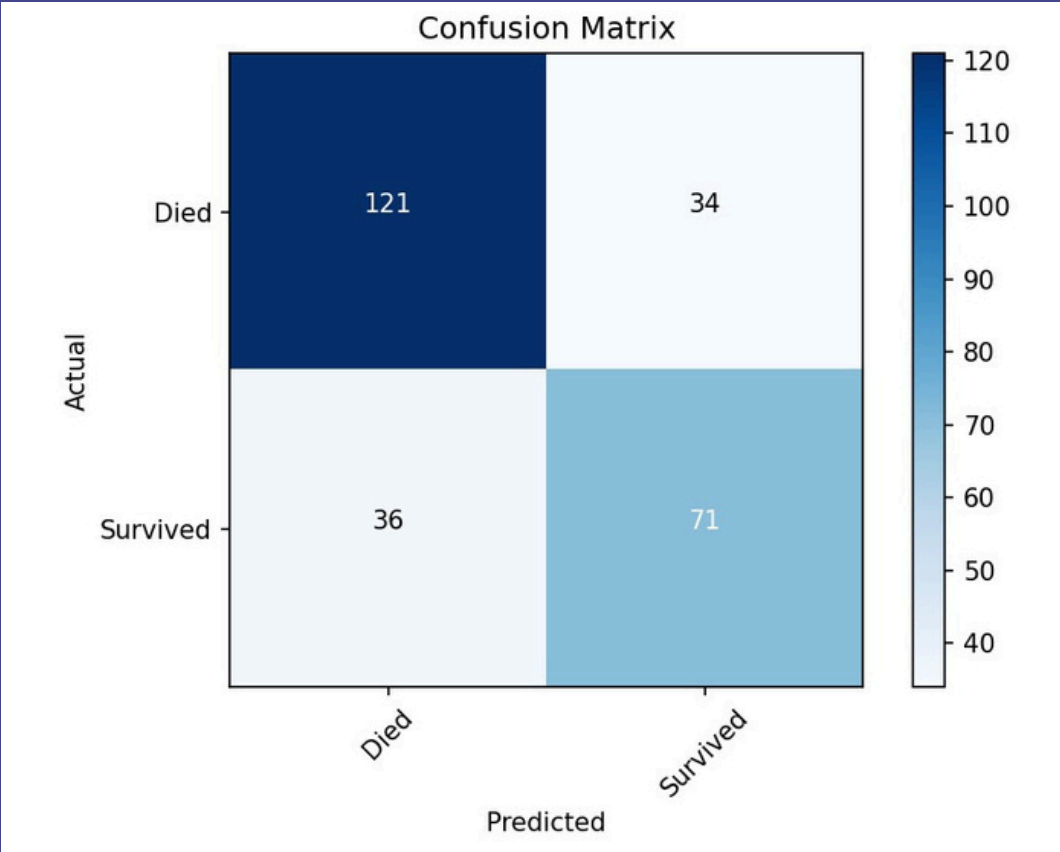
HOW THE ALGORITHMS WORK TO MAKE PREDICTION



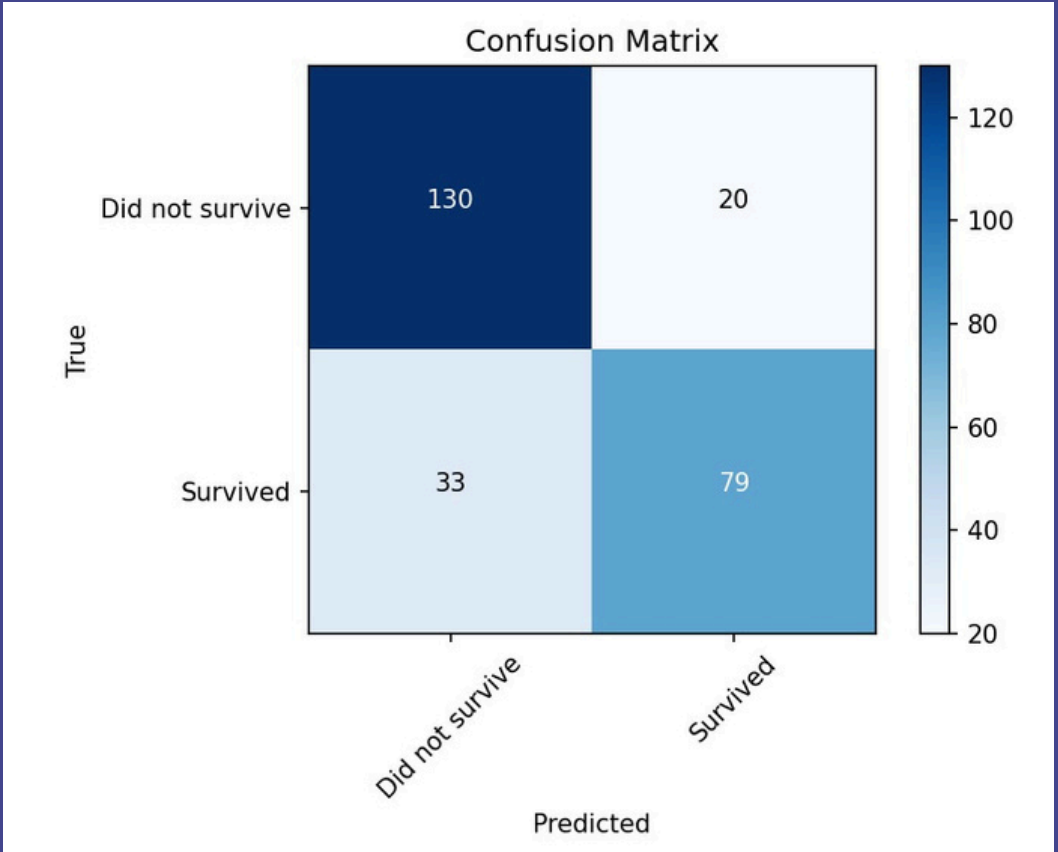
# OUR MODELE KNN VS SCIKIT-LEARN.



**ACCURACY**  
**0.73**  
**F1 SCORE**  
**0.66**



**ACCURACY**  
**0.79**  
**F1 SCORE**  
**0.69**

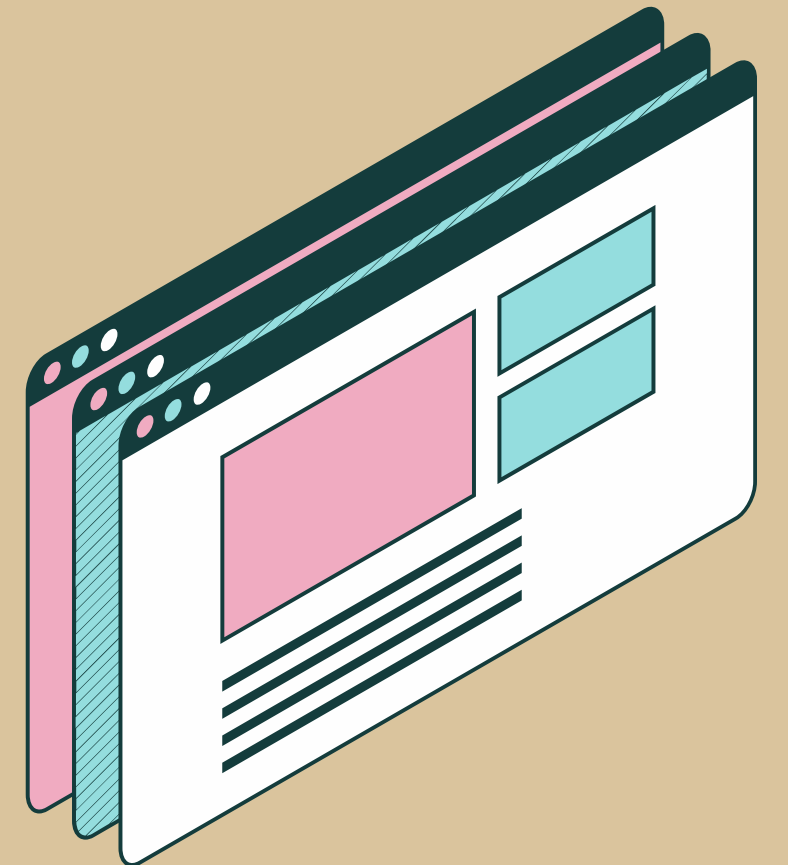
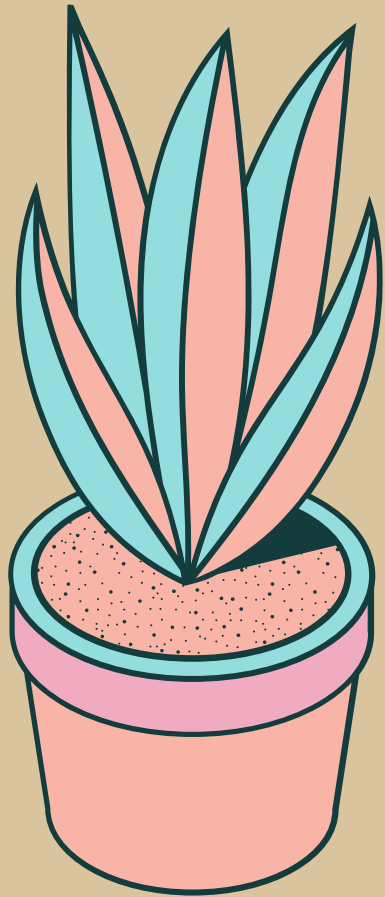


# CONCUSION & COMPARSION

KNN VS RADOM FOREST

"WOULD I HAVE SURVIVED?"

YOUR CHANCES DEPENDED HEAVILY ON HOW MUCH YOU  
PAID FOR YOUR TICKET AND YOUR AGE!



**THANK YOU !!!**