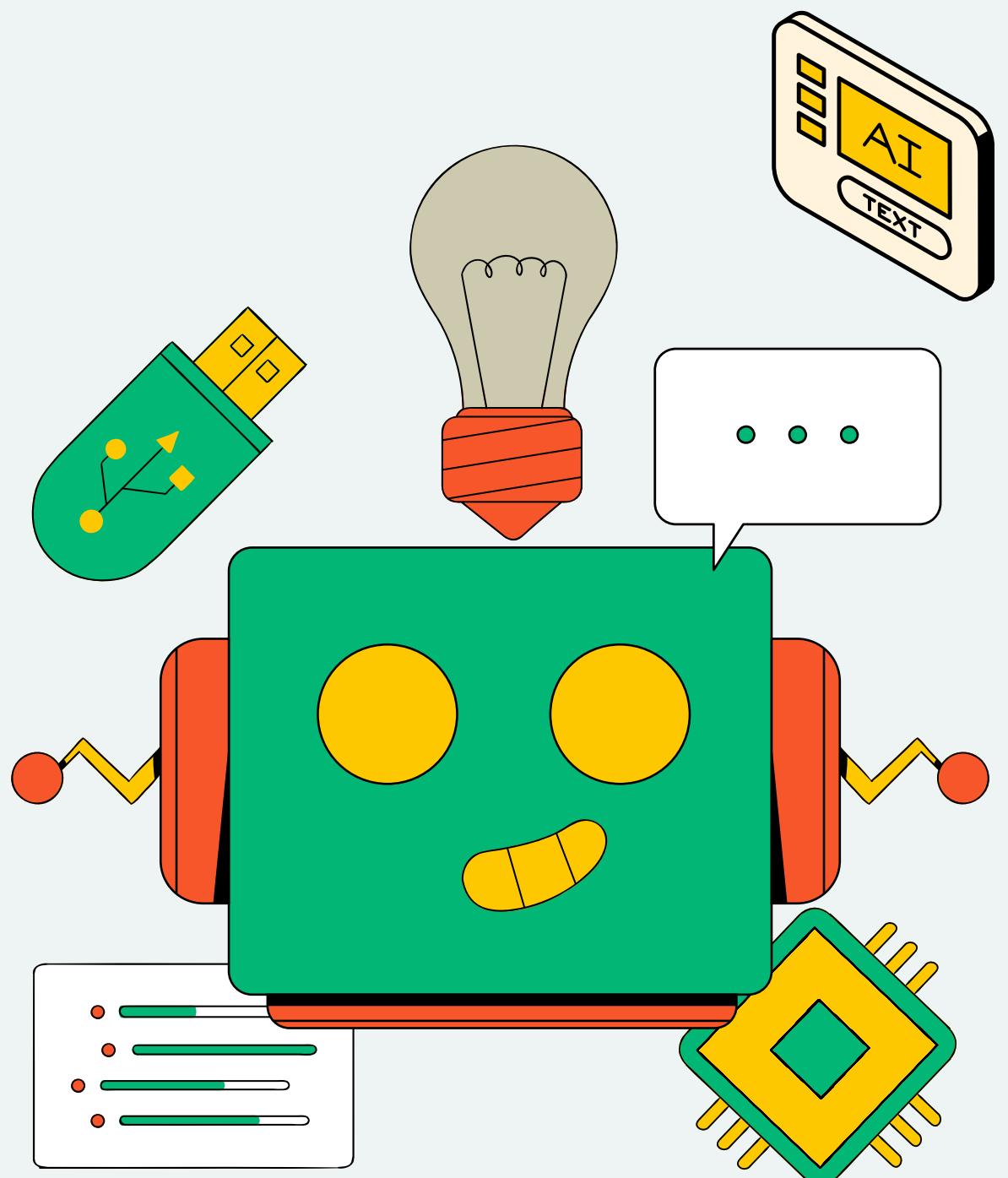


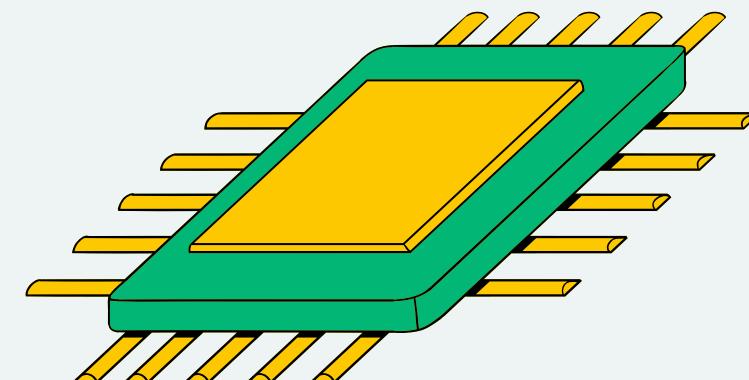
AI FOR FUTURE
WE LEARN FOR THE FUTURE

HEART DISEASE TRACKER



SHIVAM KUSHWAH

CHANDRESH GARG



Presentation Outline!!

- Introduction
- Some facts and figures
- What is the motive?
- Key Concepts
- Technologies used
- Logic of the Model
- Resources
- Model Training
- Model Accuracy
- Preview
- Future Trajectory
- Questions and Answers



Introduction

Imagine a world where machines can decipher languages, recognize faces, diagnose diseases, and even make predictions without explicit programming.

We will embark on a journey through the ever-evolving landscape of Artificial Intelligence and Machine Learning. We'll explore the core concepts, real-world applications, and the transformative potential of these technologies.



Facts & Now!

Why Does It Matter?

Prevention is Key: Heart disease is one of the leading causes of death worldwide. Early detection and consistent monitoring can significantly reduce risks and improve outcomes.

Personalized Approach: Everyone's heart health is different. Our tracker doesn't just offer general advice; it gives users tailored insights based on their unique health data.

Data-Driven Decisions: By continuously tracking metrics and viewing the trends, users are empowered to make informed decisions about their health, from lifestyle changes to seeking medical advice



Motive!!

The motive is detection of Heart Diseases using AI - ML techniques

As we need a specialist to check our reports and evaluate whether we have a heart problem or not

And!!!!!!!!!!!!

Here is the solution, we only need to enter the details and this model will predict whether we have a heart disease or not



#Key Concepts!

**Artificial
Intelligence**

**Machine
Learning**

**Logistic
Regression**

**Database
Management**

**GUI
Integration**

Ethical AI



Technologies!!

**Artificial
Intelligence**

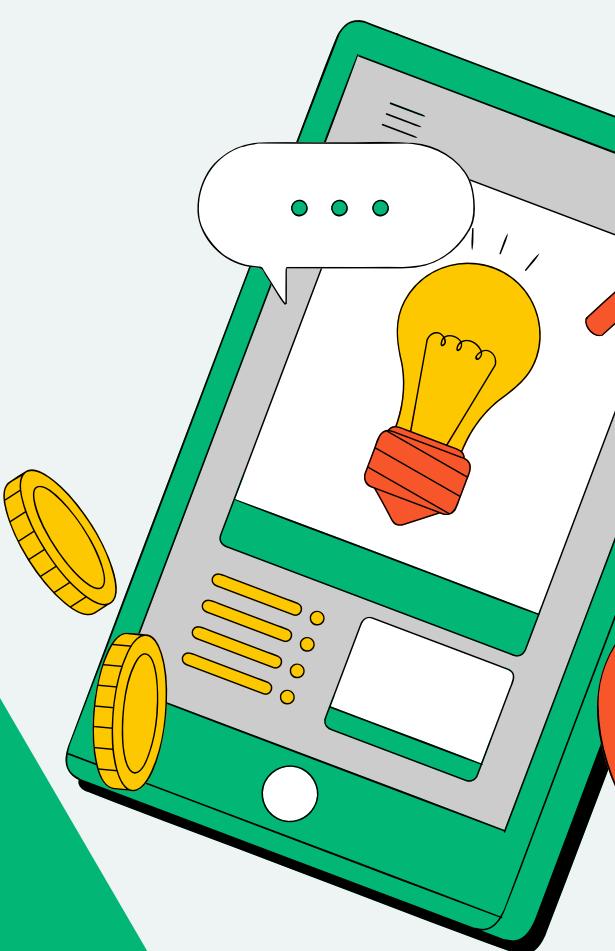
**Machine
Learning**

Scikit-Learn

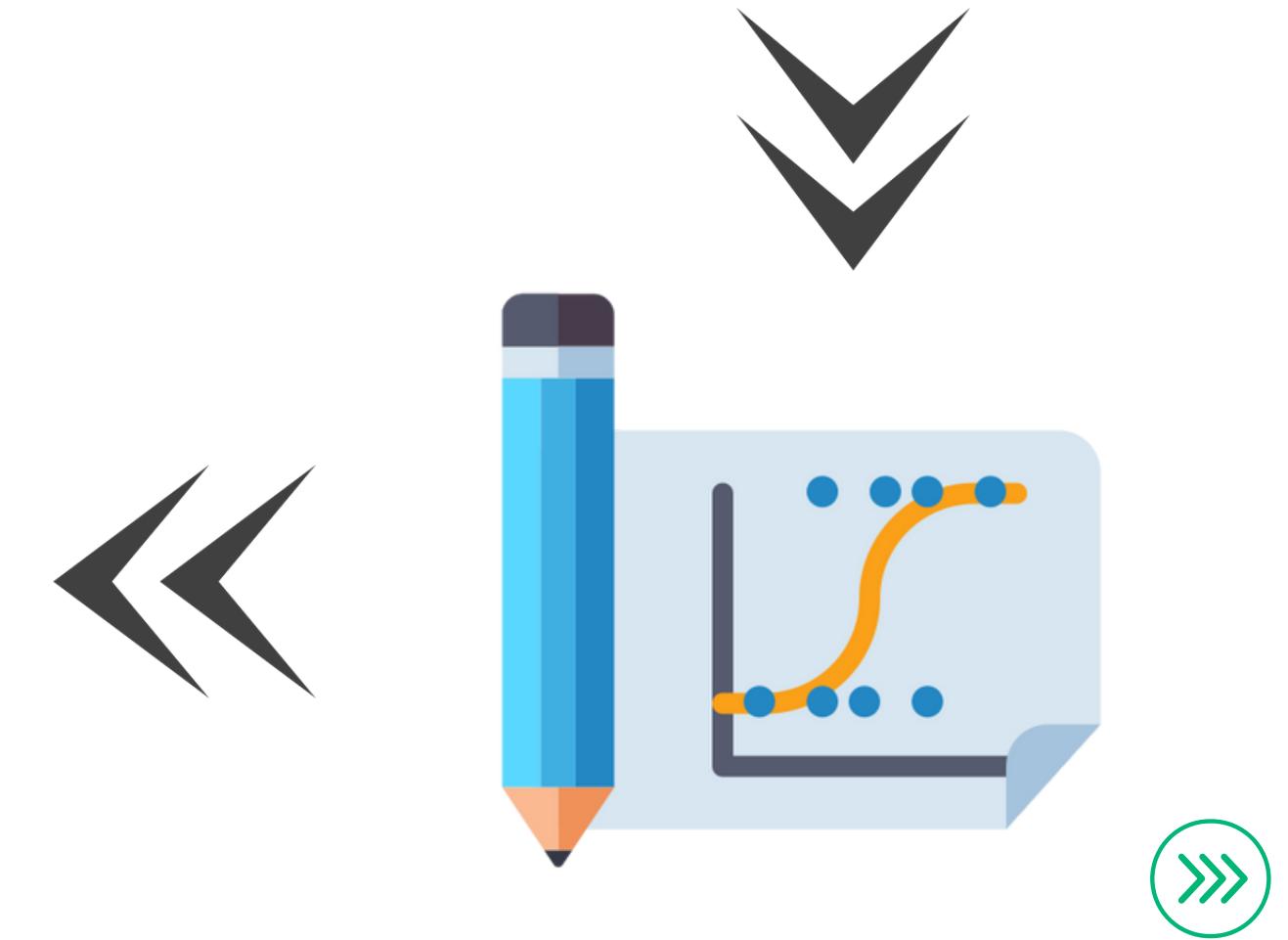
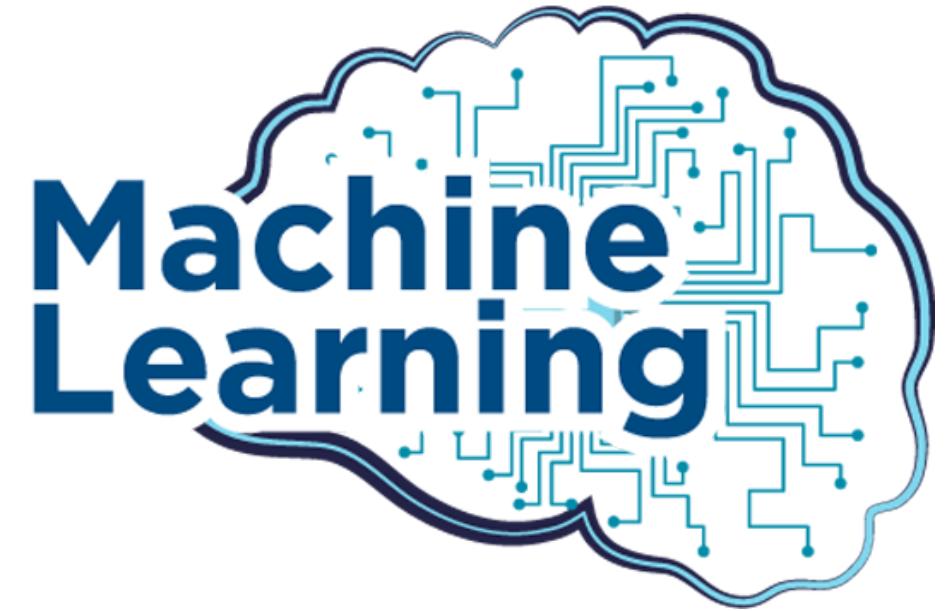
**Logistic
Regression**

Py Tkinter

TTk Bootstrap



Model Logic!



Resources Used!!



The screenshot shows a Jupyter Notebook interface with the following details:

- Header:** Includes icons for search, code, markdown, and more, followed by "Select Kernel".
- Cell 7:** Python code for importing libraries and defining a data frame.
- Cell 8:** Python code to read a CSV file and display the first few rows of the data frame.
- Data Preview:** A table showing the first 10 rows of the heart.csv dataset, which contains 303 rows and 14 columns. The columns are: age, sex, cp, trtbps, chol, fbs, restecg, thalachh, exng, oldpeak, slp, caa, thall, and output.
- Status Bar:** Shows "In 1 Col 1 (61 selected)" and other notebook status information.

Model Training



model_train.ipynb > ...

+ Code + Markdown | ▶ Run All ⌂ Clear All Outputs | ⌂ Outline ...

Python 3.11.9

```
X_test_prediction = model.predict(X_test)
accuracy_test = accuracy_score(X_test_prediction, Y_test)
accuracy_test*100
```

[30]

Python

... 81.9672131147541

[31]

Python

```
input = (41,0,1,130,204,0,0,172,0,1.4,2,0,2)
input_array = np.asarray(input)
final_input = input_array.reshape(1,-1)
prediction = model.predict(final_input)
prediction
```

...

Python

/usr/local/lib/python3.10/dist-packages/sklearn/base.py:493: UserWarning: X does not have valid feature names, but LogisticRegression was fitted with f
warnings.warn(

...

array([1])



Model Training



model_train.ipynb > ...

+ Code + Markdown | ▶ Run All ⌂ Clear All Outputs | ⌂ Outline ... Python 3.11.9

```
model.fit(X_train, Y_train)
[27] Python
```

... /usr/local/lib/python3.10/dist-packages/scikit-learn/linear_model/_logistic.py:469: ConvergenceWarning: lbfgs failed to converge (status=1):
STOP: TOTAL NO. OF ITERATIONS REACHED LIMIT.

Increase the number of iterations (max_iter) or scale the data as shown in:
<https://scikit-learn.org/stable/modules/preprocessing.html>
Please also refer to the documentation for alternative solver options:
https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression

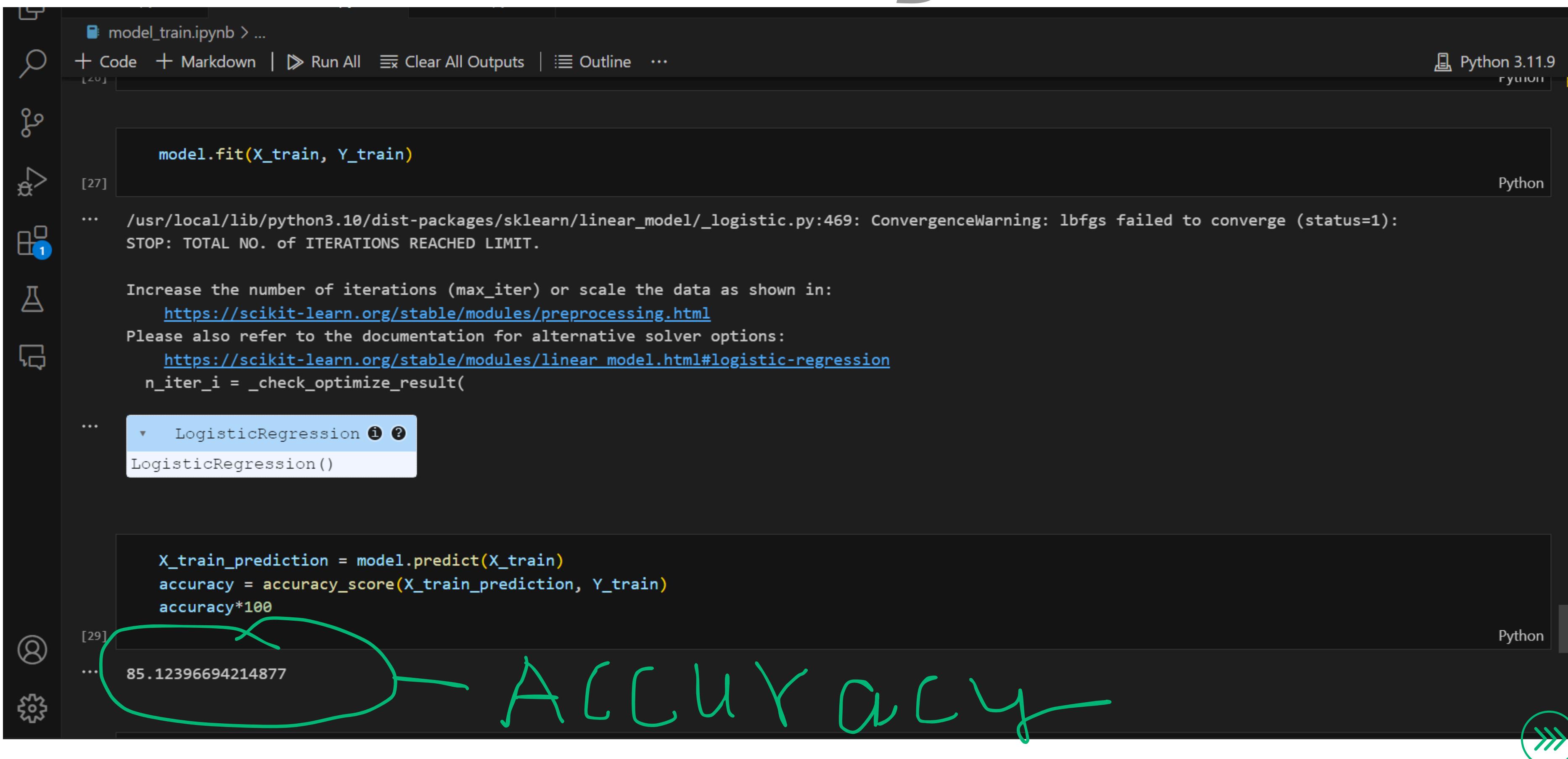
```
n_iter_i = _check_optimize_result()
...
▼ LogisticRegression ⓘ ?
```

```
LogisticRegression()
```

X_train_prediction = model.predict(X_train)
accuracy = accuracy_score(X_train_prediction, Y_train)
accuracy*100
[29] Python

... 85.12396694214877

A C C U R A C Y

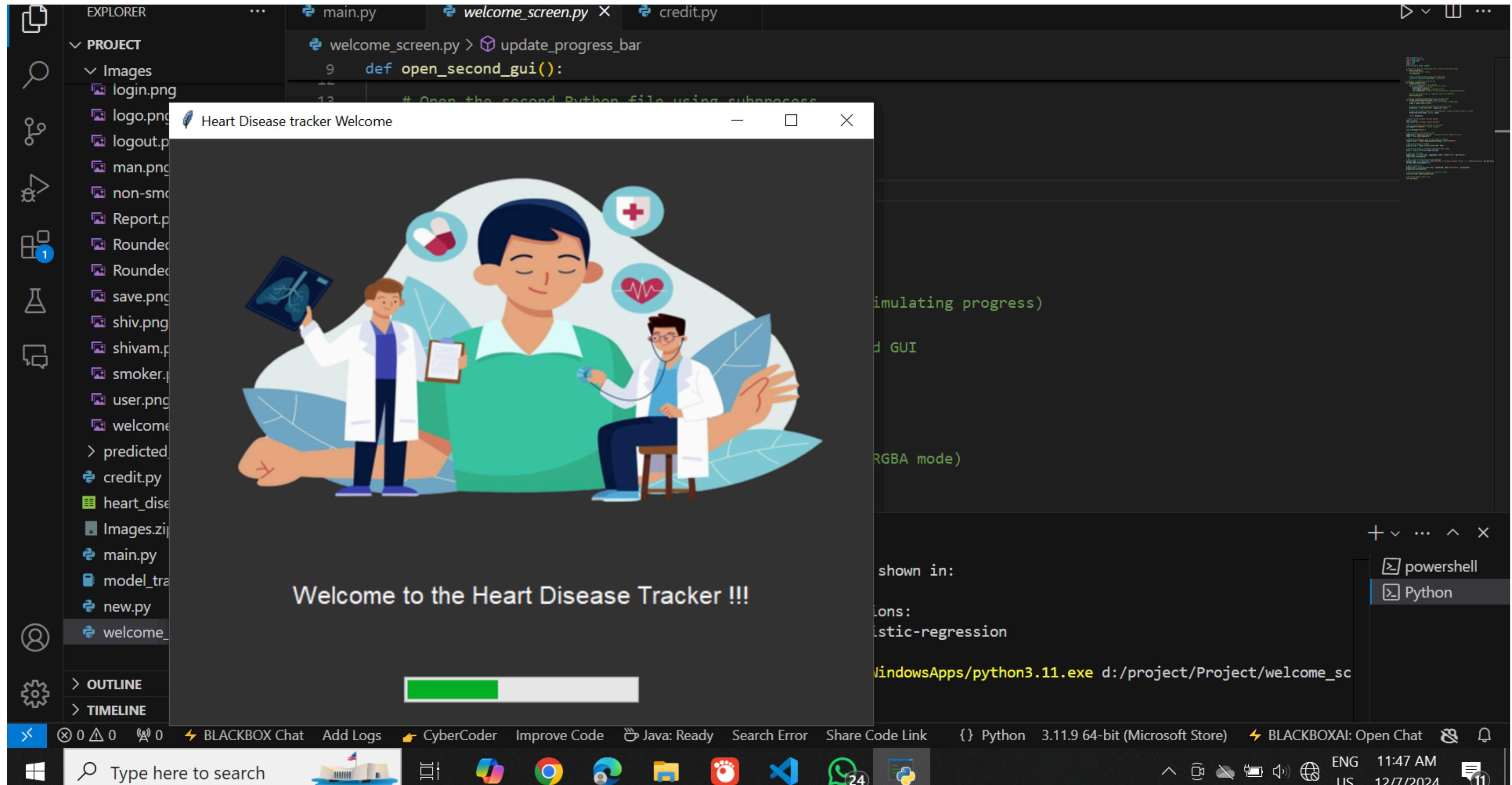


Model Accuracy

85%
ACCURACY
OF MODEL



PRIME





Credits



log out



Registration no.

0

Date:

07/12/2024

Patient Name:

Birth year:

0



Sex: Male Female

fbs: True False

exang: Yes No

cp:

smoking:

restecg:

trestbps:

slope:

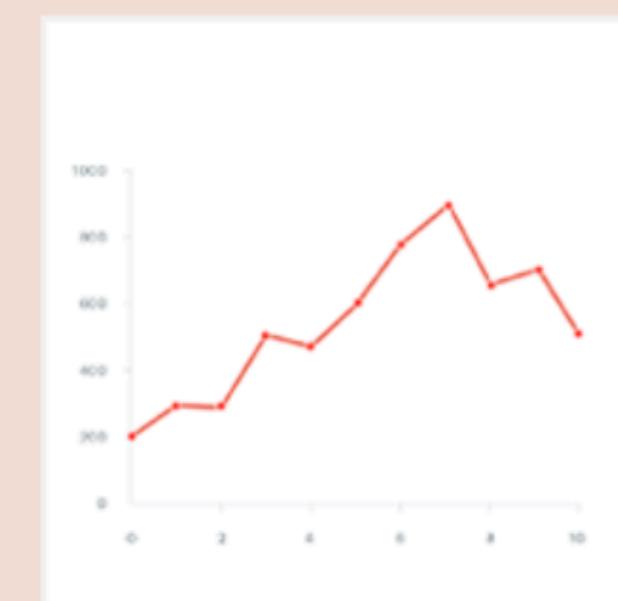
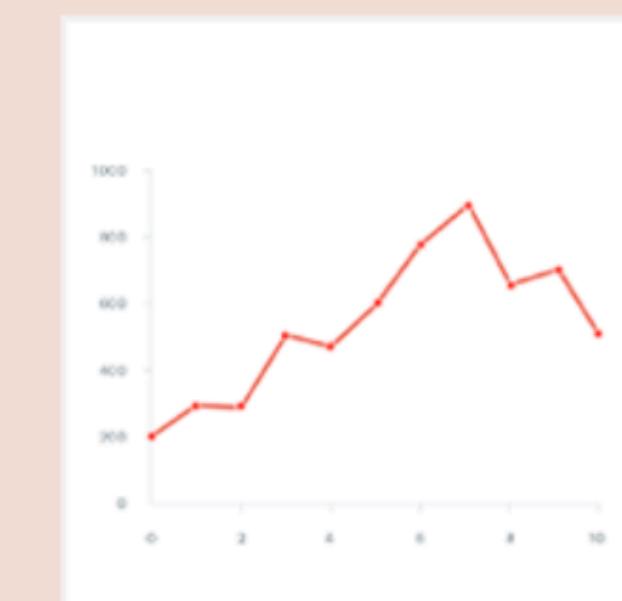
chol:

ca:

thalach:

thal:

old peak:



Analysis

Report



Credits



log out



Registration no.

0

Date:

07/12/2024

Patient Name:

Birth year:

2006

i

sex: Male Femalefbs: True Falseexang: Yes No

cp: 2 = non-anginal pain

smoking:

restecg: 1

trestbps: 21

slope: 2 = downsloping

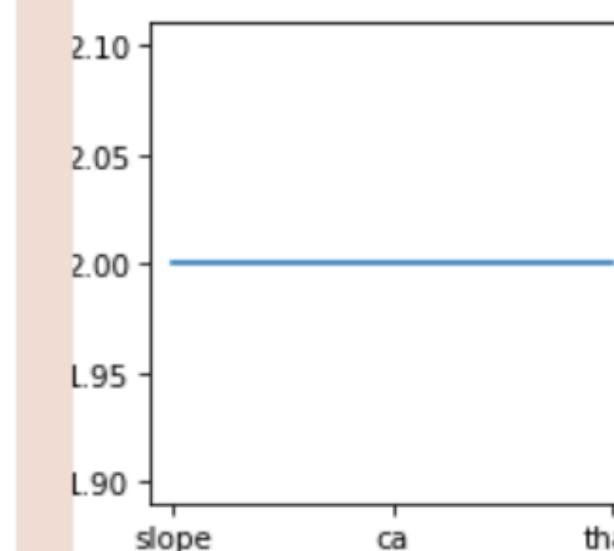
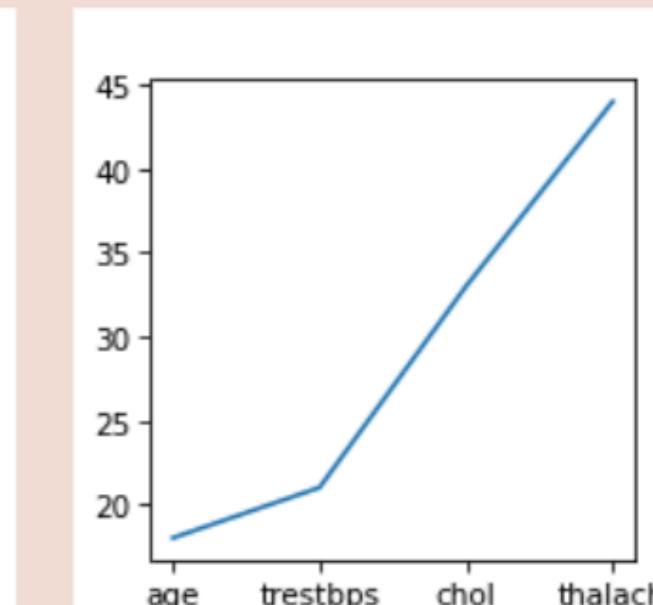
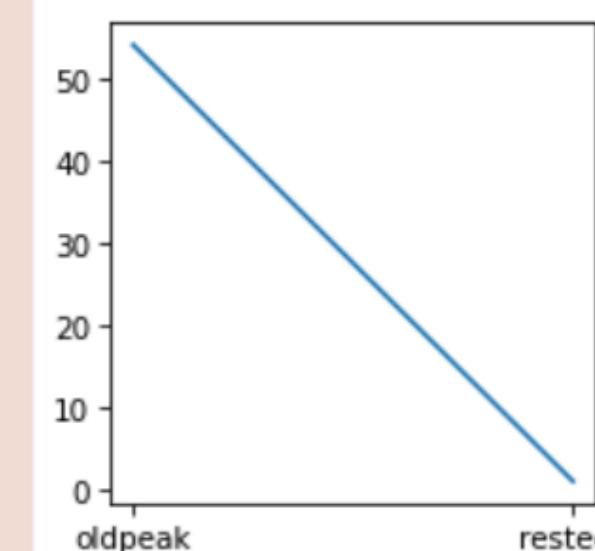
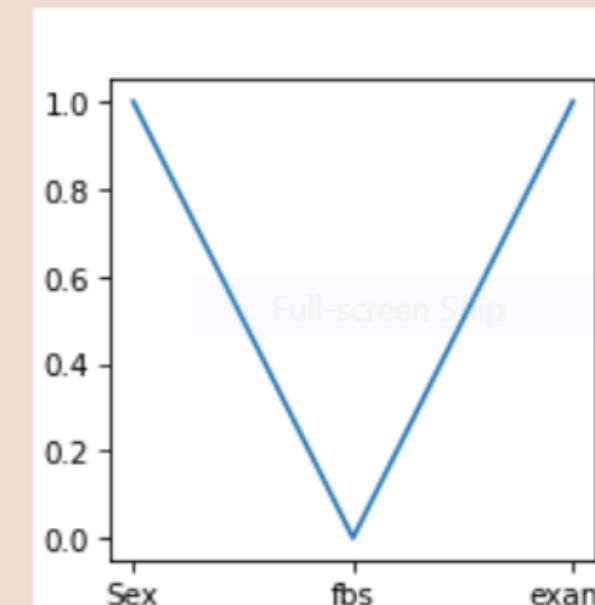
chol: 33

ca: 2

thalach: 44

thal: 2

old peak: 54



Analysis

Report

0

No Heart Disease



Credits



log out



Registration no.

1232145654

Date:

07/12/2024

Patient Name:

monika

Birth year:

2005

sex: Male Femalefbs: True Falseexang: Yes No

cp: 3 = asymptotic

smoking:

restecg: 2

trestbps: 444

slope: 1 = flat

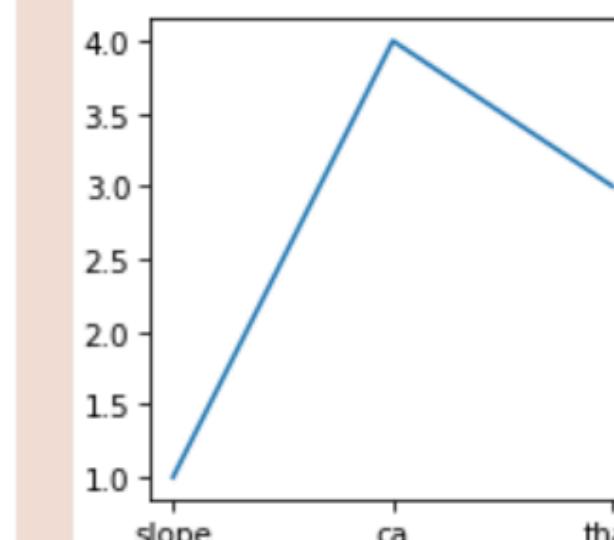
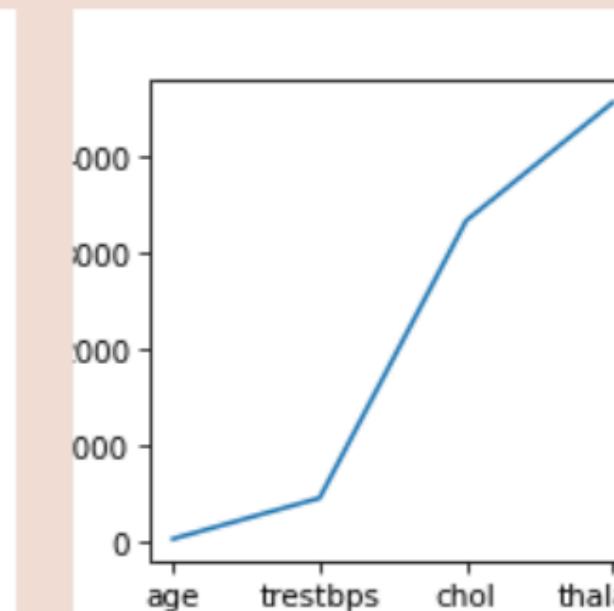
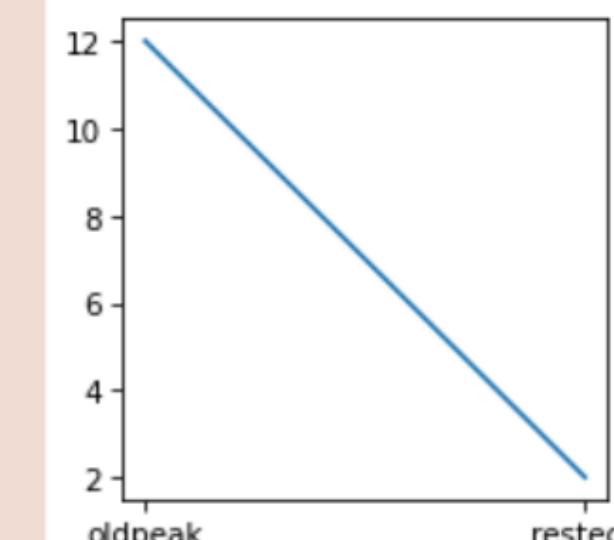
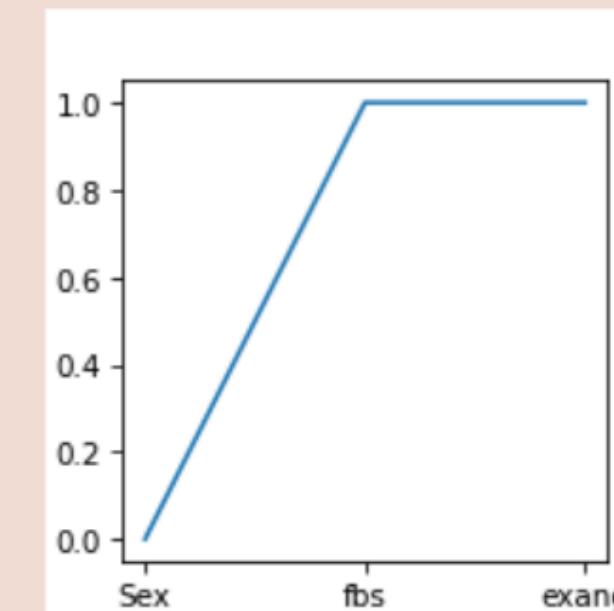
chol: 3332

ca: 4

thalach: 4562

thal: 3

old peak: 12



Analysis

Report

1

High chances of heart disease



Credits



log out



Registration no.

0

Date:

07/12/2024



information related to dataset:

age - age in years

sex - sex (1 = male; 0 = female)

cp - chest pain type (0 = typical angina; 1 = atypical angina; 2 = non-anginal pain; 3 = asymptomatic)

trestbps - resting blood pressure (in mm Hg on admission to the hospital)

chol - serum cholestorol in mg/dl

fbs - fasting blood sugar > 120 mg/dl (1 = true; 0 = false)

restecg - resting electrocardiographic results (0 = normal; 1 = having ST-T; 2 = hypertrophy)

thalach - maximum heart rate achieved

exang - exercise induced angina (1 = yes; 0 = no)

oldpeak - ST depression induced by exercise relative to rest

slope - the slope of the peak exercise ST segment (0 = upsloping; 1 = flat; 2 = downsloping)

ca - number of major vessels (0-3) colored by flourosopy

thal - 0 = normal; 1 = fixed defect; 2 = reversable defect

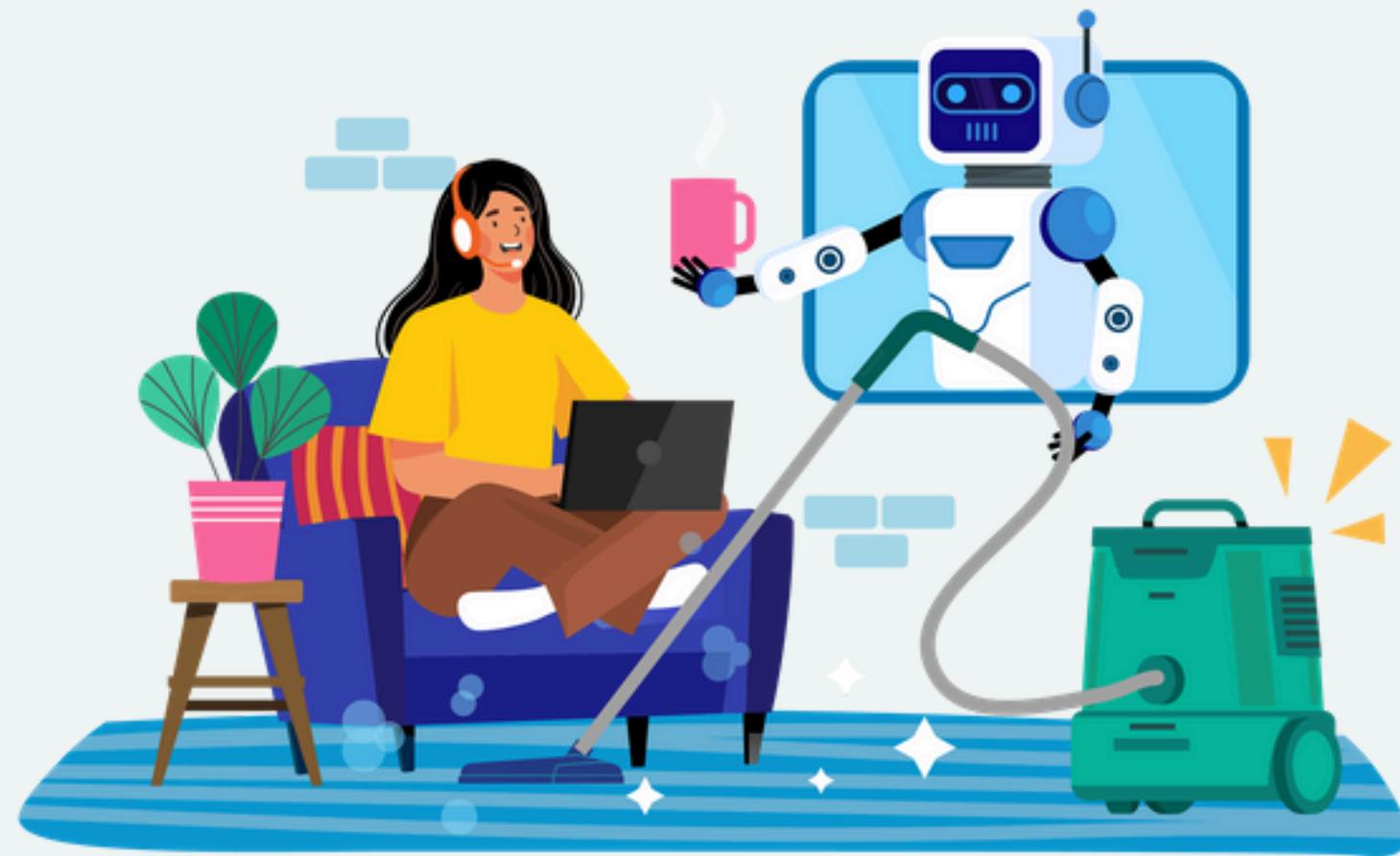
Analysis

Report

Future Trajectory!



**Early Detection
and Diagnosis**

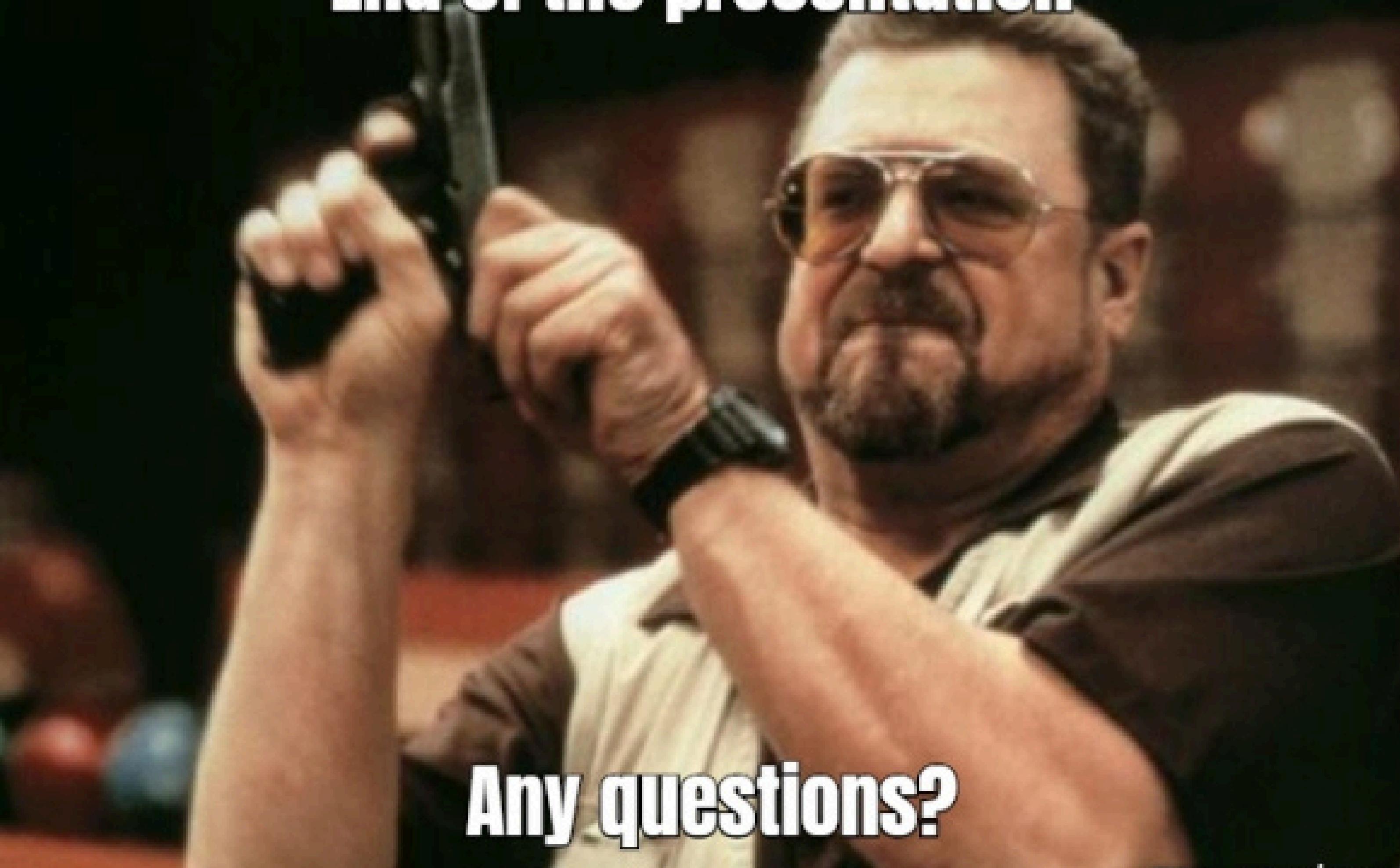


**Remote Monitoring
and Wearables**



**AI-Driven Virtual
Assistants**

End of the presentation

A close-up photograph of a middle-aged man with a beard and mustache, wearing glasses and a light-colored suit jacket over a white shirt. He is holding a dark microphone in his right hand and gesturing with his left hand. The background is blurred.

Any questions?

END OF PRESENTATION



THANK YOU

