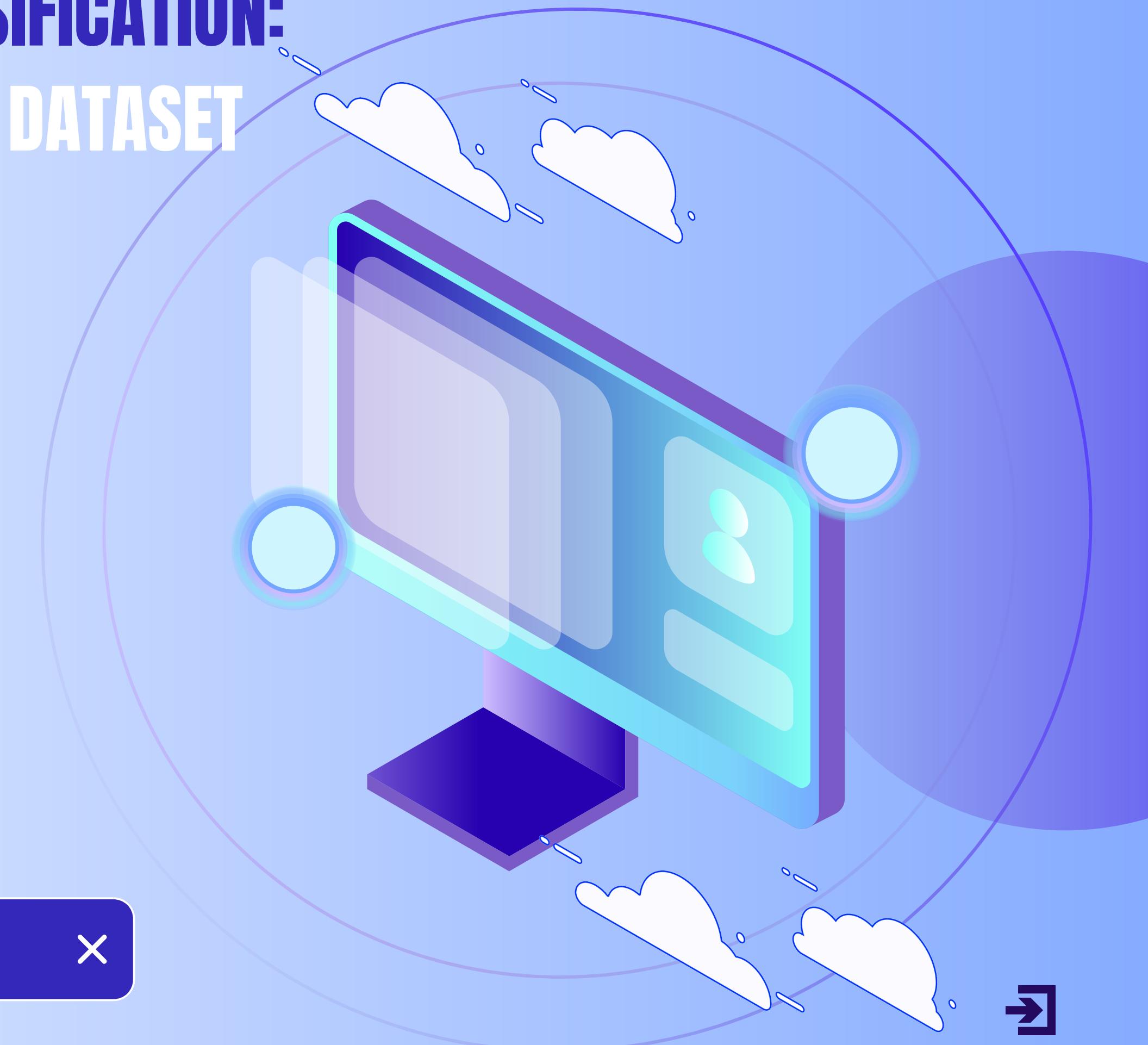


# DATA SCIENCE

## SVM CLASSIFICATION: DIABETES DATASET



<https://github.com/ishar-machrizzandi/.github.io>



# M Sya'Rani Machrizzan di

## ABOUT ME

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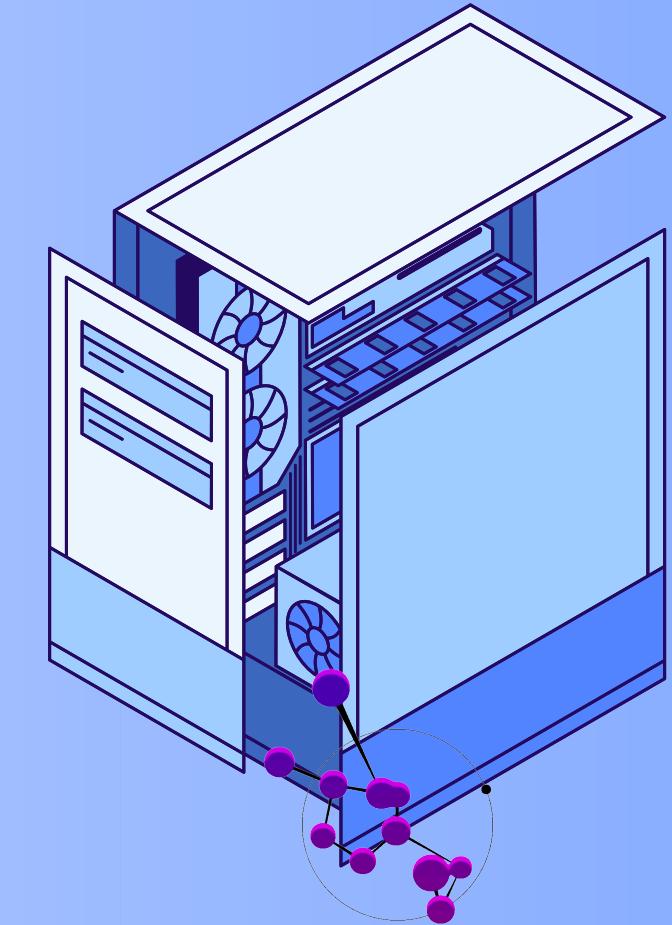
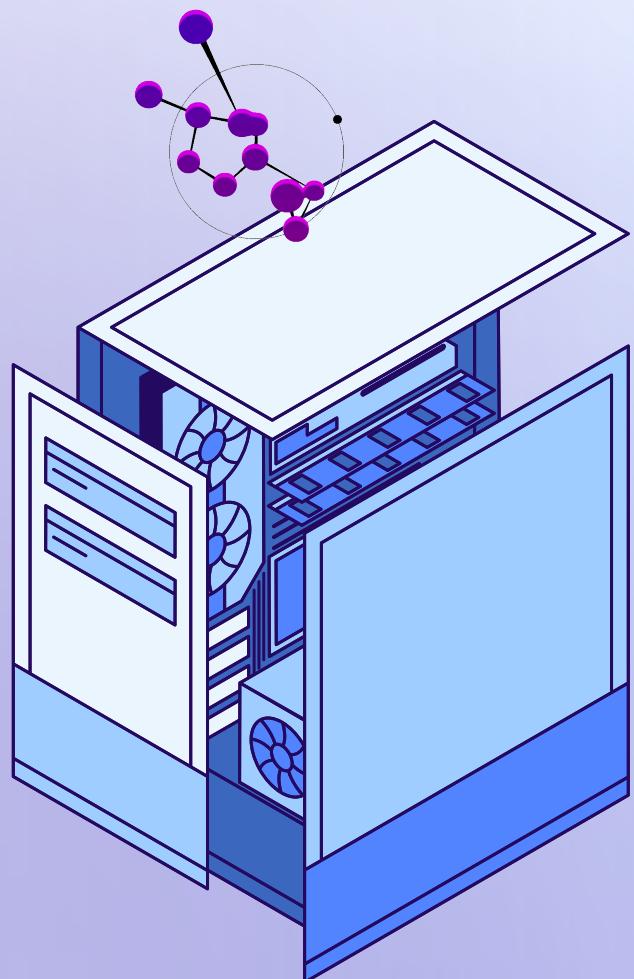
Nama saya M Sya'Rani Machrizzandi,  
S.Kom., M.Kom, Lahir di Ujung  
Pandang, 8 Agustus 1991. Pendidikan  
S1 Jurusan Teknik Informatika –  
Universitas Islam Negeri Makassar  
pada tahun 2009–2014. Kemudian  
lanjut pendidikan S2 Jurusan Sistem  
Komputer – STMIK Handayani  
Makassar, 2015–2017.





# DEFINITION AND SCOPE

This program uses the diabetes dataset from Scikit-learn to build a simple classification model. Support Vector Machine (SVM) is used to predict the target class based on certain features in the dataset.





Ishar

# DATA OVERVIEW



Dataset: load\_diabetes from Scikit-learn

- Number of samples: 442
- Number of features: 10
- Target: Continuous value represented as a regression
- Transformation is performed to make the target a binary classifier.



Ishar

# PROCESSING DATA



1. Data was loaded using the `load_diabetes` function.
2. Data was converted to a Pandas DataFrame for easy manipulation.
3. Two features were selected: BMI and BP, for simpler visualization.



Ishar

# DATA TRANSFORMATION



Target (continuous value) is converted into binary classification target:

- Class 1: If target  $> 140$
- Class 0: If target  $\leq 140$



Ishar

# DATA MODELLING

SVM model with linear kernel is used for classification:

- Training data is used to train the model.
- Test data is used to evaluate the model performance.
- Evaluation method: Accuracy and classification report.



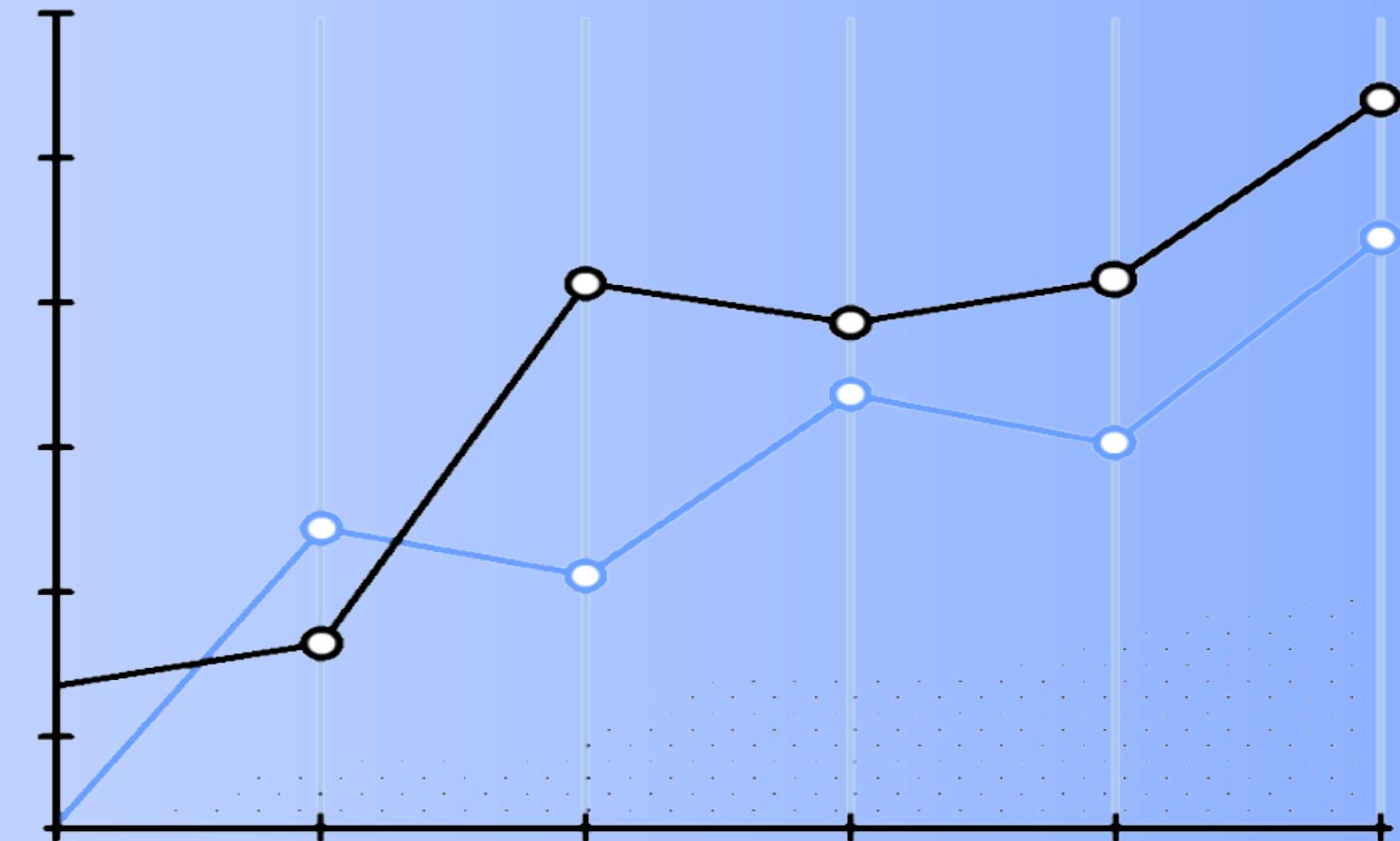


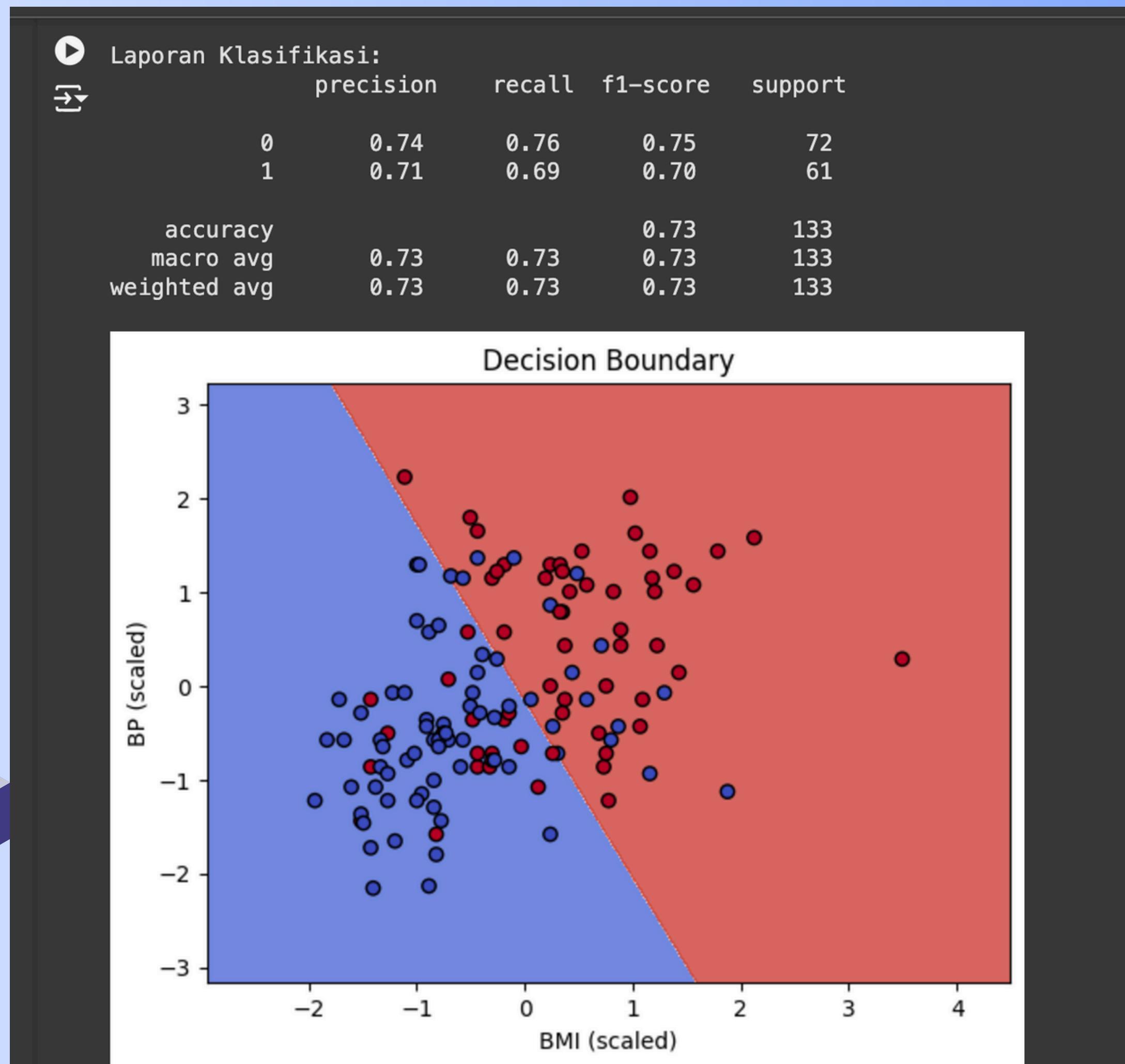
Liceria Tech

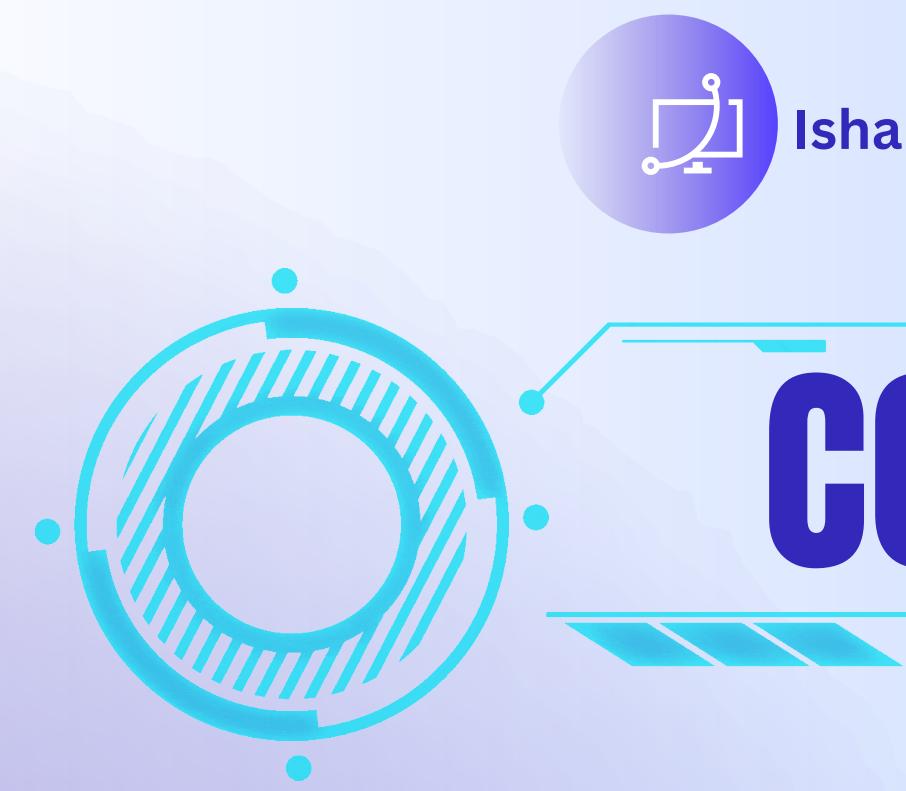
# MODELLING VISUALIZATION

The decision boundary shows how the model separates the classes.

The visualization uses two features: BMI and BP, to show the decision area.







# CONCLUSION

This simple program shows how to use the `load_diabetes` dataset to build a classification model with SVM.

Results:

- The model accuracy is quite good for binary classification.
- Decision boundary visualization helps to understand the class division by the model.





Ishar

# THANK YOU!



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