Machine Learning

Model Comparison

by Nadhif Rif’at Rasendriya

Overview

In this project, I compare several commonly used **machine learning models**, namely K-Nearest Neighbors (KNN), Kernel SVM, Logistic Regression, Naive Bayes, SVM, Decision Tree, and Random Forest.

I evaluate and compare the performance and accuracy of these models using a breast cancer dataset, from which the **confusion matrix** and **accuracy score** are obtained.
Based on these results, I analyze which model demonstrates the best predictive performance.

Models Used

K-Nearest Neighbors (K-NN)

Support Vector Machine (SVM)

Logistic Regression

Naive Bayes

2nd

Kernel SVM

Random Forest

1st

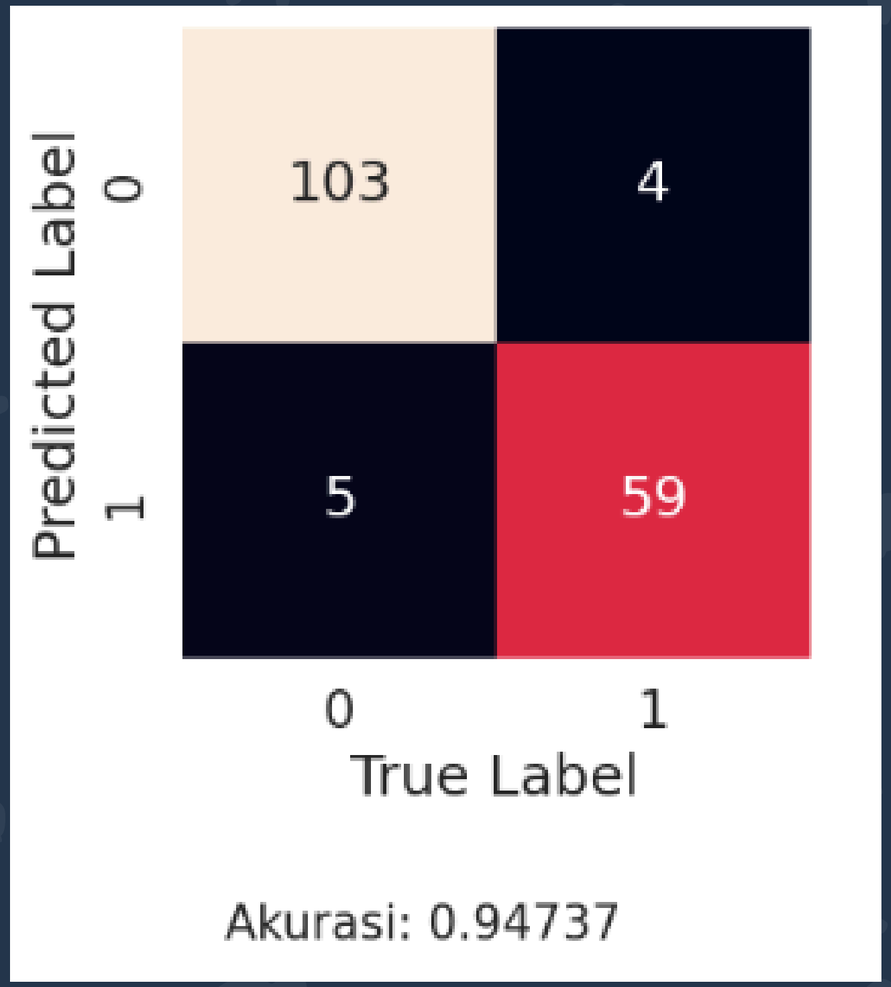
Decision Tree

Full Code & Datasets

Scan here

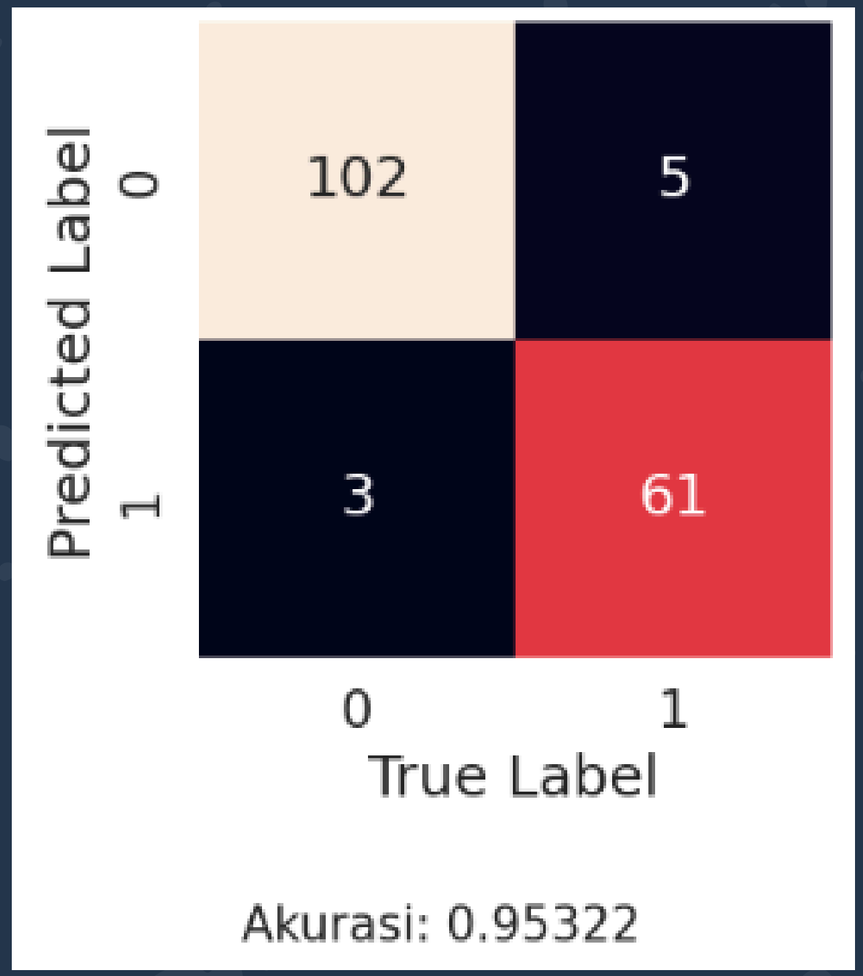
https://github.com/nadhif-royal/ModelComparisonML

K-Nearest Neighbors (K-NN)



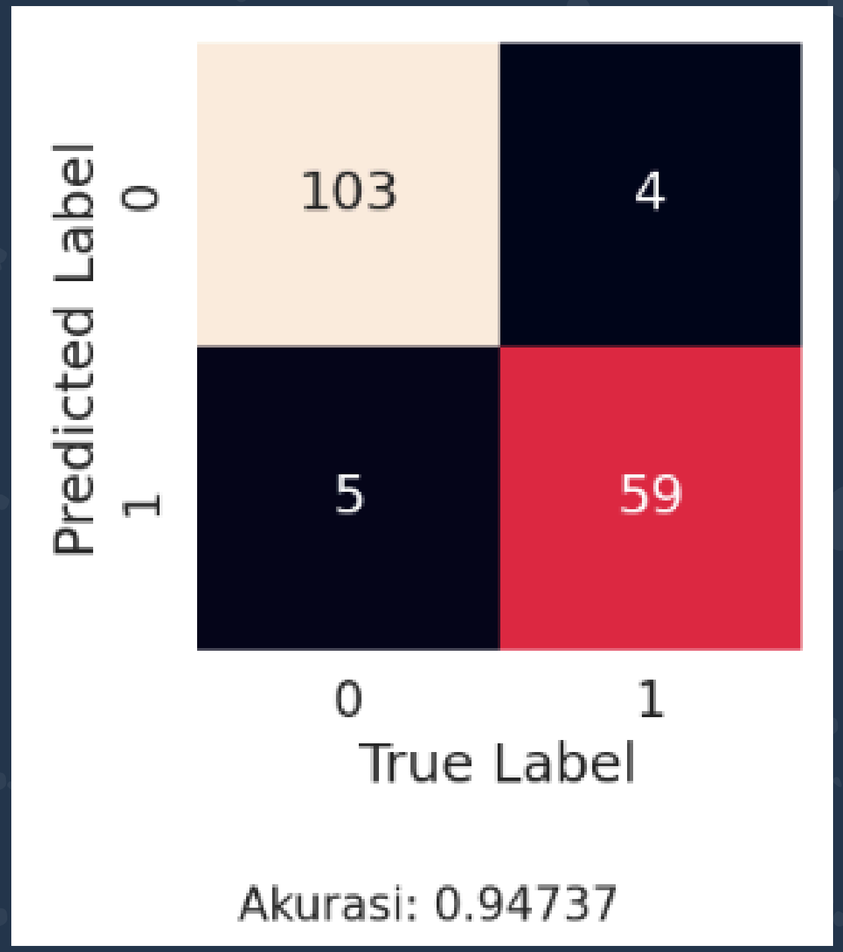
Accuracy Score: 94.73%

Kernel SVM



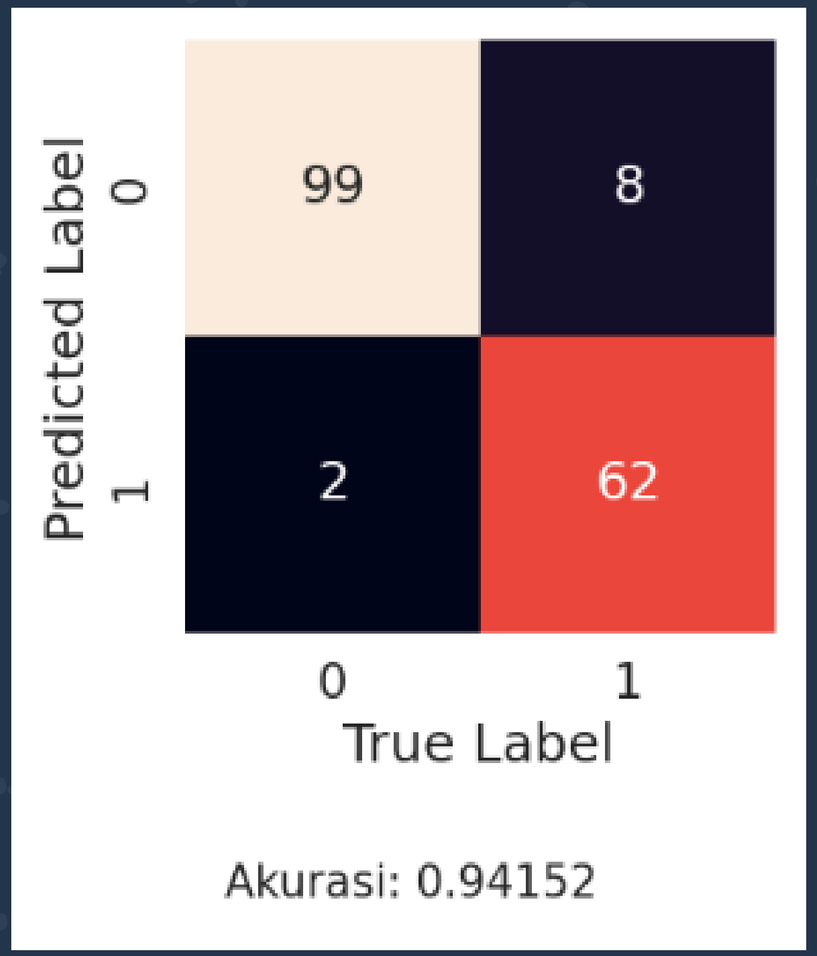
Accuracy Score: 95.32%

Logistic Regression



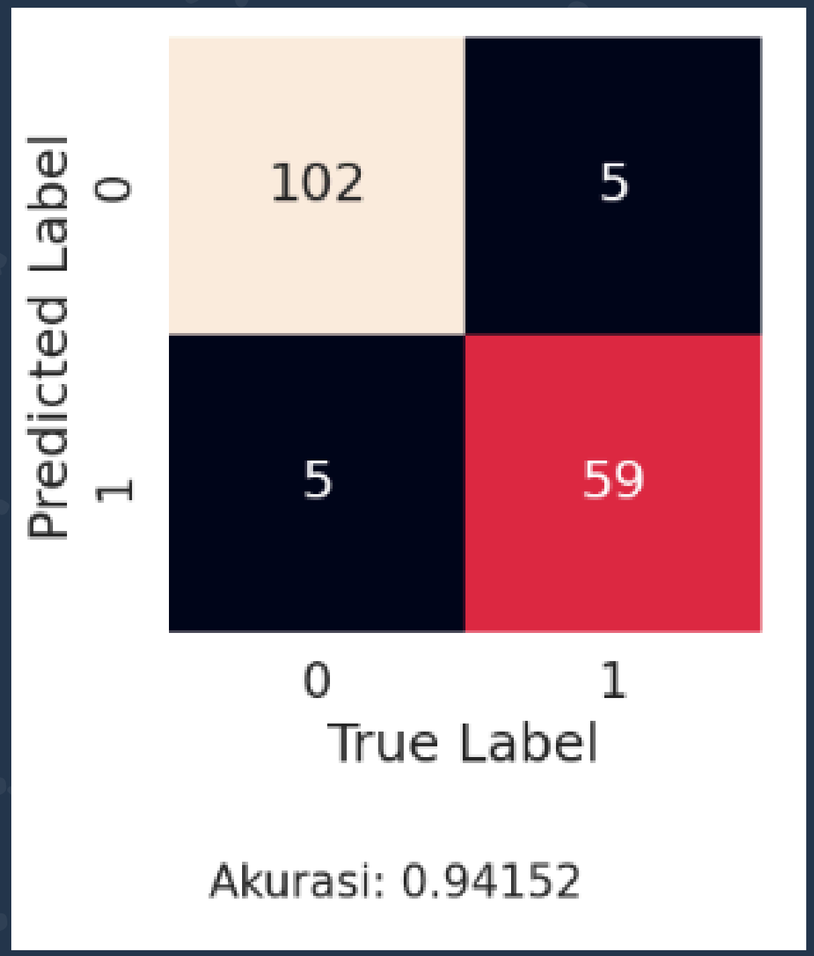
Accuracy Score: 94.73%

Naive Bayes



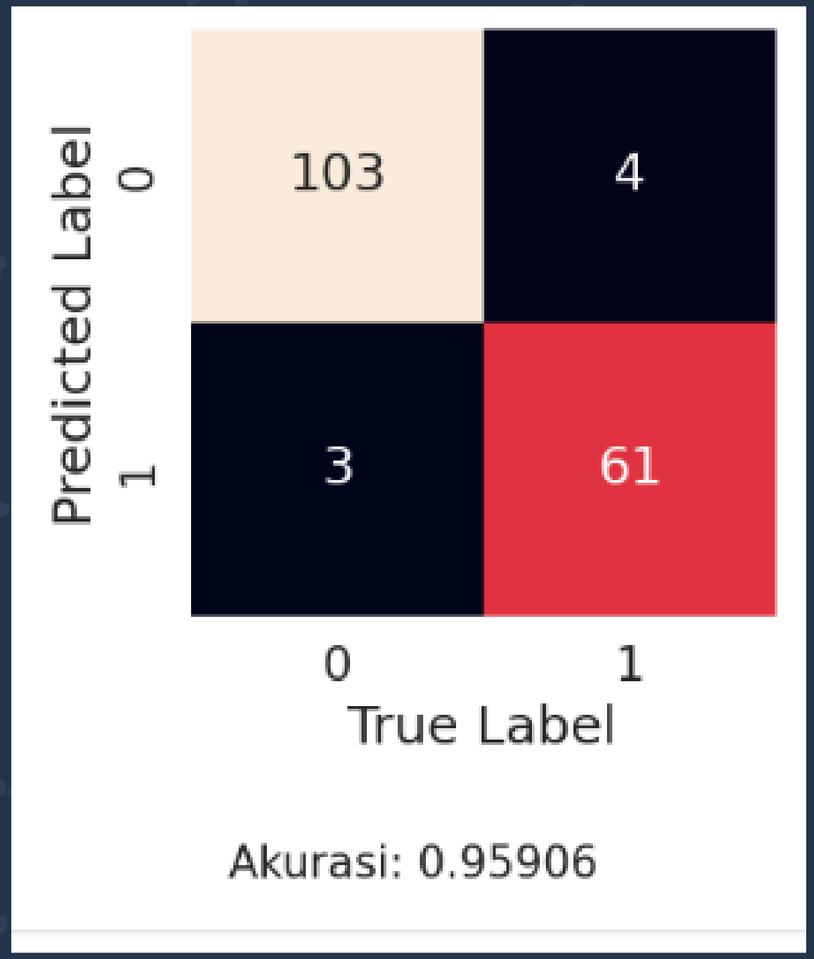
Accuracy Score: 94.15%

Support Vector Machine (SVM)



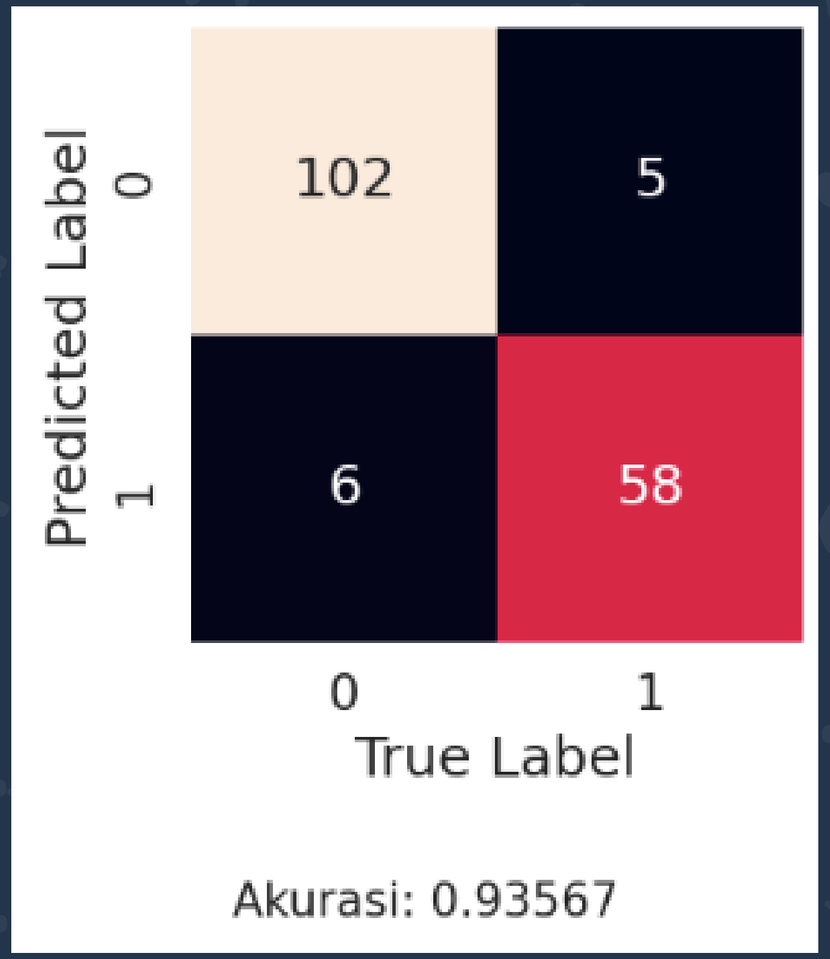
Accuracy Score: 94.15%

Decision Tree



Accuracy Score: 95.90%

Random Forest



Accuracy Score: 93.56%

The Result

Decision Tree

Best Model

Kernel SVM

2nd Best Model

Conclusion

Based on the results obtained, the **Decision Tree** model demonstrated the best performance with an accuracy score of **95.90%** on the breast cancer dataset.

On the other hand, the **Random Forest** model showed the lowest performance, with an accuracy score of **93.56%**. An alternative option is the **Kernel SVM**, which achieved a comparable accuracy score of **95.32%**, making it a close contender to the Decision Tree.

Thankyou

https://www.linkedin.com/in/royalnadhif50/

https://www.instagram.com/royal_nadhif/