

LAPORAN ANALISIS UTS DATA SCIENCE



Oleh:

Ricky Caesar Aprilla Tiaka

NIM: 2011102441100

**PROGRAM STUDI TEKNIK INFORMATIKA
FAKULTAS SAINS DAN TEKNOLOGI
UNIVERSITAS MUHAMMADIYAH KALIMANTAN TIMUR
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LEMBAR JAWABAN SOAL

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import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.naive_bayes import GaussianNB
from sklearn import svm
from sklearn import metrics
from sklearn.preprocessing import LabelEncoder
from sklearn.metrics import accuracy_score, confusion_matrix, classification_report

df = pd.read_csv('parkinsons42E.csv')

le = LabelEncoder()
df['status'] = le.fit_transform(df['status'])
X = df.iloc[:, 1:1]
y = df['status']

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

modelNB = GaussianNB()
modelNB.fit(X_train, y_train)

y_predNB = modelNB.predict(X_test)

accuracy = metrics.accuracy_score(y_test, y_predNB)

print("-----Metode Naive Bayes-----")
print("Akurasi: (accuracyNB)")

accuracy_class_0 = metrics.accuracy_score(y_test[y_test == 0], y_predNB[y_test == 0])
accuracy_class_1 = metrics.accuracy_score(y_test[y_test == 1], y_predNB[y_test == 1])

print("Akurasi untuk 'status' 0: (accuracy_class_0)")
print("Akurasi untuk 'status' 1: (accuracy_class_1)")

class_report = classification_report(y_test, y_predNB)
print("Classification Report:")
print(class_report)

print("-----Metode SVM-----")

modelSVM = svm.SVC(kernel='linear')
modelSVM.fit(X_train, y_train)

y_predSVM = modelSVM.predict(X_test)

accuracySVM = accuracy_score(y_test, y_predSVM)
print("Akurasi: (accuracySVM * 100.2f)%")

conf_matrix = confusion_matrix(y_test, y_predSVM)
print("Confusion Matrix:")
print(conf_matrix)

class_report = classification_report(y_test, y_predSVM)
print("Classification Report:")
print(class_report)

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conf_matrix = confusion_matrix(y_test, y_predSVM)
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-----Metode Naive Bayes-----
Akurasi: 0.6133846153846154
Akurasi untuk 'status' 0: 0.657428571428571
Akurasi untuk 'status' 1: 0.5625

Classification Report:
              precision    recall  f1-score   support

     0       0.38       0.86       0.44         7
     1       0.95       0.56       0.71        32

 accuracy      0.62       0.71       0.62        39
  macro avg   0.62       0.71       0.58        39
 weighted avg   0.63       0.62       0.66        39

-----Metode SVM-----
Akurasi: 74.35%
Confusion Matrix:
[[ 3  4]
 [ 4 26]]
Classification Report:
              precision    recall  f1-score   support

     0       0.11       0.43       0.18         7
     1       0.87       0.81       0.84        32

 accuracy      0.68       0.62       0.61        39
  macro avg   0.68       0.62       0.61        39
 weighted avg   0.77       0.74       0.76        39

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Link Google Colab : <https://colab.research.google.com/drive/1sDMQFj75WppyyoLqfm9Wwa-8cGn1td02?usp=sharing>

Link Video : <https://youtu.be/oE26qpfWFNU>