



**6 LAMPIRAN-LAMPIRAN**

### Lampiran 1. *Source code* Algoritma kNN

```

import numpy as np
import pandas as pd
import json
import sqlalchemy
from pandas.io import sql
import mysql.connector
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import confusion_matrix
from sklearn.metrics import classification_report
from sklearn.metrics import Accuracy_score
from sklearn.preprocessing import KBinsDiscretizer

pd.set_option('display.max_rows', None)
caesarian = pd.read_csv("/Users/pande/Documents/Project/midas-
midnersi/public/python/data.csv")

x = caesarian.drop(caesarian.columns[5], axis = 1)
y = caesarian[caesarian.columns[5]]

enc = KBinsDiscretizer(n_bins=6, encode='ordinal',
strategy='uniform')
X_binned = enc.fit_transform(x)

x_train, x_test, y_train, y_test = train_test_split(X_binned, y,
test_size = 0.25, shuffle = False)
# x_train, x_test, y_train, y_test = train_test_split(x, y,
test_size = 0.25, shuffle = False)

scaler = StandardScaler()
scaler.fit(x_train)
x_train = scaler.transform(x_train)
x_test = scaler.transform(x_test)

klasifikasi = KNeighborsClassifier(n_neighbors=25)
klasifikasi.fit(x_train, y_train)
y_pred = klasifikasi.predict(x_test)
y_pred
klasifikasi.predict_proba(x_test)

report = classification_report(y_test, y_pred, output_dict=True)

```

```
jsonData = json.dumps(report)

Accuracy= Accuracy_score(y_test, y_pred)
database_username = 'root'
database_password = 'root'
database_ip       = '127.0.0.1'
database_name     = 'pande'
database_connection =
sqlalchemy.create_engine('mysql+mysqlconnector://{0}:{1}@{2}/{3}'.

format(database_username, database_password, database_ip,
database_name))
database_connection.execute('DELETE FROM confusion_matrices')

confusion = confusion_matrix(y_test, y_pred)

database_connection.execute('INSERT INTO confusion_matrices (tipe,
tp, tn, fp, fn) VALUES ({0}, {1}, {2}, {3}, {4})'.format('1',
confusion[0][0], confusion[1][1], confusion[1][0],
confusion[0][1]))
```



## Lampiran 2. *Source code* algoritma Equal-width Interval

```

import numpy as np
import pandas as pd
import json
import sqlalchemy
from pandas.io import sql
import mysql.connector
from sklearn.preprocessing import KBinsDiscretizer

pd.set_option('display.max_rows', None)
caesarian = pd.read_csv("/Users/pande/Documents/Project/midas-
midnersi/public/python/data.csv")

database_username = 'root'
database_password = 'root'
database_ip = '127.0.0.1'
database_name = 'pande'
database_connection =
sqlalchemy.create_engine('mysql+mysqlconnector://{0}:{1}@{2}/{3}'.
format(database_username, database_password, database_ip, database_name))
x = caesarian.drop(caesarian.columns[5], axis = 1)
y = caesarian[caesarian.columns[5]]

enc = KBinsDiscretizer(n_bins=6, encode='ordinal', strategy='uniform')
X_binned = enc.fit_transform(x)

database_connection.execute('DELETE FROM diskrit_pies')

for i in X_binned:
    database_connection.execute('INSERT INTO diskrit_pies (open, high,
low, close, volume) VALUES ({0}, {1}, {2}, {3}, {4})'.format(i[0], i[1],
i[2], i[3], i[4]))

```

Lampiran 3. *Dataset*

open	high	low	close	volume	result
1.58980	1.59300	1.58090	1.58600	29118	Naik
1.58610	1.59380	1.58510	1.59090	30597	Naik
1.59090	1.59850	1.59080	1.59580	30387	Turun
1.59590	1.59690	1.58410	1.58510	29576	Naik
1.58510	1.59110	1.58190	1.58960	28380	Naik
1.58960	1.59710	1.58620	1.59260	22876	Naik
1.59270	1.60420	1.58950	1.60170	26915	Naik
1.60170	1.60780	1.60090	1.60520	26418	Naik
1.60530	1.61430	1.60380	1.61390	22369	Turun
1.61230	1.61340	1.60760	1.61240	20467	Naik
1.61250	1.61640	1.61090	1.61420	21548	Naik
1.61430	1.61820	1.60810	1.61670	26173	Naik
1.61680	1.62070	1.61580	1.61790	19584	Naik
1.61780	1.62800	1.61530	1.62560	22725	Turun
1.62710	1.63010	1.62210	1.62360	16941	Turun
1.62360	1.62470	1.61860	1.62200	14848	Turun
1.62210	1.62390	1.61600	1.61970	18359	Turun
1.61970	1.62150	1.61590	1.61790	17081	Turun
1.61800	1.62020	1.61410	1.61560	17308	Naik
1.61420	1.61960	1.61140	1.61930	21450	Turun
1.61940	1.61980	1.61240	1.61520	22679	Turun
1.61530	1.61580	1.60660	1.61310	24518	Turun
1.61300	1.61820	1.60910	1.61300	20455	Turun
1.61310	1.61420	1.60620	1.60730	18056	Naik
1.60640	1.61230	1.60510	1.60960	19050	Turun
1.60970	1.61140	1.59840	1.59980	19623	Turun
1.59980	1.59980	1.58890	1.59110	24881	Turun
1.59110	1.59320	1.57800	1.57800	24140	Naik
1.57810	1.58370	1.57310	1.58260	21739	Turun
1.58090	1.58410	1.57790	1.58220	18818	Turun
1.58230	1.58480	1.57410	1.57640	19233	Turun
1.57630	1.57710	1.56710	1.56910	24633	Turun
1.56910	1.57260	1.56380	1.56680	21629	Turun



open	high	low	close	volume	result
1.56680	1.56990	1.56300	1.56560	19726	Naik
1.56780	1.57170	1.56720	1.56760	15346	Turun
1.56770	1.57160	1.56080	1.56340	20020	Turun
1.56340	1.56380	1.54730	1.54810	23275	Turun
1.54810	1.55260	1.53600	1.54030	23375	Turun
1.54030	1.54380	1.52680	1.53430	31174	Naik
1.53660	1.54150	1.53410	1.53810	20172	Turun
1.53830	1.54080	1.53210	1.53760	20696	Naik
1.53750	1.55150	1.53720	1.54890	23026	Naik
1.54890	1.56010	1.54300	1.55320	24531	Turun
1.55330	1.55360	1.54040	1.54580	23604	Naik
1.55260	1.55820	1.54700	1.54710	22262	Naik
1.54710	1.55900	1.54530	1.55660	23373	Turun
1.55680	1.55980	1.55030	1.55100	20686	Naik
1.55100	1.55640	1.54720	1.55510	20929	Naik
1.55520	1.57090	1.54760	1.57070	20757	Turun
1.57300	1.57320	1.56360	1.56640	24073	Naik
1.56650	1.57570	1.56150	1.57230	24117	Turun
1.57240	1.57770	1.56510	1.57080	28720	Turun
1.57090	1.57330	1.55770	1.55950	27138	Turun
1.55960	1.56340	1.55570	1.55810	21793	Turun
1.55850	1.55940	1.55380	1.55710	16902	Naik
1.55700	1.56500	1.55630	1.56330	22190	Turun
1.56340	1.56410	1.55450	1.55650	19871	Turun
1.55660	1.56240	1.54840	1.55150	26407	Naik
1.55160	1.57060	1.55090	1.56670	33948	Naik
1.56950	1.57210	1.56410	1.56910	26767	Turun
1.56900	1.57130	1.56580	1.56860	19647	Turun
1.56870	1.56890	1.55740	1.55930	18815	Turun
1.55940	1.56230	1.55000	1.55210	27444	Turun
1.55220	1.55510	1.54610	1.54910	22944	Naik
1.54790	1.55340	1.54700	1.55230	18967	Turun
1.55250	1.55490	1.54780	1.55150	20700	Turun
1.55150	1.55780	1.54860	1.55070	19630	Turun
1.55080	1.55160	1.53930	1.54310	18898	Naik



open	high	low	close	volume	result
1.54300	1.55810	1.54140	1.55760	18041	Naik
1.55810	1.56540	1.55170	1.56320	16396	Naik
1.56320	1.56780	1.55540	1.56470	19982	Naik
1.56470	1.56680	1.55810	1.56530	18232	Naik
1.56530	1.57370	1.56360	1.57170	20025	Turun
1.57180	1.57210	1.56120	1.56250	18454	Turun
1.56040	1.56160	1.54850	1.55010	20885	Naik
1.55020	1.55520	1.54860	1.55040	20600	Turun
1.55050	1.55510	1.54580	1.54930	25050	Naik
1.54940	1.57230	1.54700	1.56850	27779	Naik
1.56850	1.57670	1.56660	1.57260	24735	Turun
1.57340	1.57400	1.56720	1.57030	17588	Turun
1.57030	1.57300	1.56250	1.56730	21498	Turun
1.56730	1.56900	1.55300	1.55370	21739	Turun
1.55380	1.56790	1.54900	1.55130	31554	Naik
1.55130	1.56570	1.55040	1.56370	22747	Turun
1.56340	1.56650	1.55460	1.55980	19395	Naik
1.55990	1.56840	1.55640	1.56210	17507	Naik
1.56220	1.56770	1.55720	1.56560	17741	Turun
1.56570	1.56850	1.56050	1.56340	17869	Naik
1.56350	1.57010	1.55770	1.56840	16043	Turun
1.56770	1.57170	1.56560	1.56800	12749	Turun
1.56810	1.57280	1.56710	1.56750	14565	Naik
1.56750	1.57010	1.56600	1.56800	11459	Naik
1.56790	1.57440	1.56360	1.57350	15132	Turun
1.57350	1.57390	1.56740	1.56840	14356	Naik
1.56960	1.57170	1.56780	1.57090	11905	Naik
1.57090	1.58040	1.57060	1.57810	14791	Naik
1.57810	1.58830	1.57650	1.58810	14750	Turun
1.58820	1.59120	1.58520	1.58570	14076	Turun
1.58570	1.58690	1.58020	1.58050	12742	Turun
1.58130	1.58280	1.57850	1.57880	8551	Naik
1.57890	1.58360	1.57530	1.58180	12306	Naik
1.58180	1.58550	1.58030	1.58280	10099	Turun
1.58290	1.58750	1.57710	1.57830	11413	Naik



open	high	low	close	volume	result
1.57840	1.58950	1.57780	1.58730	15359	Naik
1.58800	1.58980	1.58500	1.58830	9890	Turun
1.58840	1.59090	1.58590	1.58730	11457	Naik
1.58740	1.59340	1.58250	1.59010	16165	Naik
1.59020	1.59430	1.58810	1.59350	18064	Naik
1.59350	1.60340	1.59220	1.60030	17777	Turun
1.60120	1.60180	1.59590	1.59870	10902	Naik
1.59870	1.60830	1.59860	1.60670	13589	Naik
1.60680	1.61310	1.60640	1.61080	22075	Naik
1.61080	1.61740	1.60690	1.61500	18849	Naik
1.61510	1.62560	1.61430	1.62290	16238	Naik
1.62280	1.62730	1.62110	1.62470	11881	Turun
1.62480	1.62670	1.62200	1.62390	13976	Turun
1.62400	1.62710	1.61850	1.62210	14794	Turun
1.62210	1.62360	1.61630	1.62140	16924	Naik
1.62140	1.63090	1.62130	1.62350	16600	Turun
1.62430	1.62460	1.61810	1.62210	12832	Turun
1.62210	1.62670	1.61820	1.61940	16234	Turun
1.61950	1.62090	1.61370	1.61670	15086	Naik
1.61680	1.62430	1.61660	1.62350	18531	Turun
1.62350	1.62720	1.61130	1.61460	19113	Turun
1.61520	1.61750	1.61090	1.61300	18471	Turun
1.61300	1.61860	1.61240	1.61300	16695	Turun
1.61300	1.61420	1.60670	1.60790	15221	Naik
1.60790	1.62020	1.60760	1.61930	15171	Turun
1.61920	1.62170	1.61220	1.61340	14603	Turun
1.61370	1.61400	1.60200	1.60200	14363	Turun
1.60210	1.60460	1.59760	1.60020	15877	Turun
1.60030	1.60340	1.59760	1.60010	14361	Naik
1.60020	1.60540	1.59840	1.60470	12207	Naik
1.60470	1.60970	1.60180	1.60740	12297	Turun
1.60770	1.60800	1.60210	1.60710	11200	Naik
1.60720	1.61340	1.60610	1.61190	13396	Naik
1.61180	1.61780	1.61120	1.61390	13121	Turun
1.61390	1.61700	1.60400	1.60470	13962	Turun





open	high	low	close	volume	result
1.60470	1.60660	1.59960	1.60050	10648	Naik
1.60050	1.60520	1.59910	1.60120	13581	Turun
1.60120	1.60240	1.59130	1.59500	14518	Naik
1.59500	1.60480	1.59360	1.60360	15378	Naik
1.60370	1.61430	1.60270	1.61180	13962	Turun
1.61190	1.61410	1.60810	1.60930	12678	Turun
1.60940	1.60960	1.60070	1.60280	8323	Naik
1.60290	1.60850	1.60210	1.60780	9597	Naik
1.60790	1.61390	1.60680	1.61290	12394	Turun
1.61300	1.61750	1.61200	1.61230	11418	Turun
1.61240	1.61330	1.60070	1.60200	13475	Turun
1.60040	1.60390	1.59570	1.59780	11973	Naik
1.59780	1.60070	1.59650	1.59970	9663	Turun
1.59970	1.60420	1.59540	1.59860	13284	Turun
1.59870	1.60050	1.59290	1.59810	11735	Turun
1.59800	1.60190	1.58870	1.59040	12346	Turun
1.59010	1.59140	1.58640	1.58760	7665	Turun
1.58760	1.59150	1.58580	1.58710	12642	Turun
1.58710	1.59010	1.58380	1.58400	12892	Naik
1.58390	1.58790	1.58230	1.58630	12086	Naik
1.58630	1.59010	1.58360	1.58890	12381	Naik
1.58840	1.59230	1.58820	1.59070	10516	Naik
1.59100	1.59360	1.58910	1.59240	11597	Naik
1.59240	1.59550	1.58820	1.59510	11040	Turun
1.59510	1.59780	1.59190	1.59360	11171	Naik
1.59330	1.60510	1.59270	1.60360	12648	Turun
1.60300	1.60380	1.59960	1.60280	8886	Turun
1.60260	1.60560	1.60090	1.60220	11416	Turun
1.60210	1.60240	1.59620	1.60160	9782	Naik
1.60160	1.60480	1.60020	1.60400	10467	Turun
1.60400	1.60620	1.59890	1.60180	10201	Naik
1.60160	1.61150	1.60110	1.60900	10360	Naik
1.60900	1.61300	1.60860	1.60990	10759	Turun
1.60970	1.61180	1.60820	1.60930	11364	Turun
1.60950	1.61280	1.60390	1.60490	11760	Turun



open	high	low	close	volume	result
1.60490	1.60610	1.60010	1.60350	12111	Naik
1.60340	1.60960	1.60140	1.60740	9443	Naik
1.60750	1.61220	1.60690	1.61130	9369	Naik
1.61140	1.61710	1.60940	1.61490	10975	Turun
1.61480	1.61540	1.60840	1.61110	10268	Naik
1.61110	1.61770	1.61030	1.61620	9005	Naik
1.61580	1.62160	1.61570	1.62040	9343	Naik
1.62030	1.62690	1.61940	1.62520	9313	Turun
1.62510	1.63060	1.62440	1.62460	10483	Naik
1.62450	1.62960	1.62380	1.62780	11684	Turun
1.62790	1.62840	1.61520	1.61690	13384	Turun
1.61520	1.62060	1.61010	1.61110	7889	Naik
1.61250	1.61710	1.61080	1.61370	14152	Turun
1.61360	1.62020	1.60670	1.60990	14914	Naik
1.60960	1.61700	1.60780	1.61680	12674	Naik
1.61720	1.62740	1.61340	1.62600	11861	Turun
1.62410	1.63790	1.62140	1.62540	28528	Turun
1.62530	1.62550	1.60910	1.61080	12608	Turun
1.61080	1.61080	1.60090	1.60740	15710	Naik
1.60680	1.61170	1.60210	1.61150	12633	Turun
1.61140	1.61280	1.60290	1.60530	13609	Turun
1.60510	1.60750	1.59920	1.60210	14006	Naik
1.60210	1.61670	1.60040	1.61640	15494	Turun
1.61630	1.61790	1.60880	1.61270	13662	Turun
1.61300	1.61540	1.60310	1.60770	13987	Turun
1.60750	1.61000	1.60330	1.60630	14506	Turun
Dan seterusnya . . .					



## RIWAYAT HIDUP



Komang Sudana Yasa Pande lahir di Kubutambahan pada tanggal 03 Mei 1998. Penulis lahir dari pasangan Bapak Nengah Nurita dan Ibu Nyoman Supardi. Penulis berkebangsaan Indonesia dan beragama Hindu. Kini penulis beralamat di Jalan Gunung Batur, No.88x, Banjar Pasek, Desa Kubutambahan, Kabupaten Buleleng, Provinsi Bali. Penulis menyelesaikan pendidikan dasar di SD Negeri 7 Kubutambahan dan lulus pada tahun 2009. Kemudian penulis melanjutkan di SMP Negeri 1 Kubutambahan dan lulus pada tahun 2012. Pada tahun 2015, penulis lulus dari SMA Negeri 3 Singaraja dengan jurusan IPA dan melanjutkan ke S1 Pendidikan Teknik Informatika di Universitas Pendidikan Ganesha. Pada semester akhir di tahun 2019 penulis telah menyelesaikan Skripsi yang berjudul “Pengembangan Sistem Pendukung Keputusan Penentuan Prioritas Pemberian Bantuan Bimtek Kepada Industri Kecil dan Menengah (IKM) Dengan Metode *Analytical Hierarchy Process* (AHP) dan *Simple Additive Weighting* (SAW)”. Penulis meraih gelar Sarjana pada tahun 2019. Selanjutnya, mulai tahun 2019 sampai dengan penulisan tesis ini, penulis masih terdaftar sebagai mahasiswa aktif pada Pascasarjana Program Studi Ilmu Komputer di Universitas Pendidikan Ganesha.