

```

In [4]: 'N:/sem4/SDR/Lab/waveLet/untitled0.py' = 'N:/sem4/SDR/Lab/waveLet'

Disease ...
Symptom
0 UMLS:C0020538_hypertensive disease ...
UMLS:C0008031_pain chest
1 NaN ... UMLS:C0392680_shortness of
breath
2 NaN ...
UMLS:C0012833_dizziness
3 NaN ...
UMLS:C0004093_asthenia
4 NaN ...
UMLS:C0085639_fall
... ...
...
1861 NaN ...
UMLS:C0425251_bedridden^UMLS:C0741453_bedridden
1862 NaN ...
UMLS:C0242453_prostatism
1863 UMLS:C0011127_decubitus ulcer ... UMLS:C0232257_systolic
murmur
1864 NaN ...
UMLS:C0871754_frail
1865 NaN ...
UMLS:C0015967_fever

[1866 rows x 3 columns]
[328 87 28 ... 361 130 122]
[[0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]
 ...
 [0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]]

-----PERFORMANCE ANALYSIS FOR DT CLASSIFIER-----

Real Test dataset labels:
16 bipolar disorder
55 endocarditis
124 pneumonia
89 ischemia
32 colitis
92 kidney failure acute
91 kidney disease
118 paranoia
69 hepatitis
1 HIV
80 hypertensive disease
67 hemiparesis
31 cirrhosis
101 manic disorder
94 lymphoma
133 sepsis (invertebrate)
120 paroxysmal dyspnea
100 malignant neoplasms
74 hiv infections

```

```

33             confusion
64     gastroesophageal reflux disease
41             delirium
88             insufficiency renal
42             delusion
43             dementia
25             cellulitis
102            melanoma
65             glaucoma
128     primary malignant neoplasm
145     transient ischemic attack
Name: disease, dtype: object

```

Predicted Test dataset labels:

```

['bipolar disorder' 'endocarditis' 'pneumonia' 'ischemia' 'colitis'
'kidney failure acute' 'kidney disease' 'paranoia' 'hepatitis' 'HIV'
'hypertensive disease' 'hemiparesis' 'cirrhosis' 'manic disorder'
'lymphoma' 'sepsis (invertebrate)' 'paroxysmal dyspnea'
'malignant neoplasms' 'hiv infections' 'confusion'
'gastroesophageal reflux disease' 'delirium' 'insufficiency renal'
'delusion' 'dementia' 'cellulitis' 'melanoma' 'glaucoma'
'malignant neoplasms' 'transient ischemic attack']

```

	precision	recall	f1-score	support
HIV	1.00	1.00	1.00	1
bipolar disorder	1.00	1.00	1.00	1
cellulitis	1.00	1.00	1.00	1
cirrhosis	1.00	1.00	1.00	1
colitis	1.00	1.00	1.00	1
confusion	1.00	1.00	1.00	1
delirium	1.00	1.00	1.00	1
delusion	1.00	1.00	1.00	1
dementia	1.00	1.00	1.00	1
endocarditis	1.00	1.00	1.00	1
gastroesophageal reflux disease	1.00	1.00	1.00	1
glaucoma	1.00	1.00	1.00	1
hemiparesis	1.00	1.00	1.00	1
hepatitis	1.00	1.00	1.00	1
hiv infections	1.00	1.00	1.00	1
hypertensive disease	1.00	1.00	1.00	1
insufficiency renal	1.00	1.00	1.00	1
ischemia	1.00	1.00	1.00	1
kidney disease	1.00	1.00	1.00	1
kidney failure acute	1.00	1.00	1.00	1
lymphoma	1.00	1.00	1.00	1
malignant neoplasms	0.00	0.00	0.00	0
malignant neoplasms	1.00	1.00	1.00	1
manic disorder	1.00	1.00	1.00	1
melanoma	1.00	1.00	1.00	1
paranoia	1.00	1.00	1.00	1
paroxysmal dyspnea	1.00	1.00	1.00	1
pneumonia	1.00	1.00	1.00	1
primary malignant neoplasm	0.00	0.00	0.00	1
sepsis (invertebrate)	1.00	1.00	1.00	1
transient ischemic attack	1.00	1.00	1.00	1
accuracy			0.97	30
macro avg	0.94	0.94	0.94	30

weighted avg	0.97	0.97	0.97	30
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-----PERFORMANCE ANALYSIS FOR NB CLASSIFIER-----

Real Test dataset labels:

```

16          bipolar disorder
55          endocarditis
124         pneumonia
89          ischemia
32          colitis
92          kidney failure acute
91          kidney disease
118         paranoia
69          hepatitis
1          HIV
80          hypertensive disease
67          hemiparesis
31          cirrhosis
101         manic disorder
94          lymphoma
133         sepsis (invertebrate)
120         paroxysmal dyspnea
100         malignant neoplasms
74          hiv infections
33          confusion
64          gastroesophageal reflux disease
41          delirium
88          insufficiency renal
42          delusion
43          dementia
25          cellulitis
102         melanoma
65          glaucoma
128         primary malignant neoplasm
145         transient ischemic attack

```

Name: disease, dtype: object

Predicted Test dataset labels:

```

['bipolar disorder' 'endocarditis' 'pneumonia' 'ischemia' 'colitis'
'kidney failure acute' 'kidney disease' 'paranoia' 'hepatitis' 'HIV'
'hypertensive disease' 'hemiparesis' 'cirrhosis' 'manic disorder'
'lymphoma' 'sepsis (invertebrate)' 'paroxysmal dyspnea'
'malignant neoplasms' 'hiv infections' 'confusion'
'gastroesophageal reflux disease' 'delirium' 'insufficiency renal'
'delusion' 'dementia' 'cellulitis' 'melanoma' 'glaucoma'
'malignant neoplasms' 'transient ischemic attack']

```

	precision	recall	f1-score	support
HIV	1.00	1.00	1.00	1
bipolar disorder	1.00	1.00	1.00	1
cellulitis	1.00	1.00	1.00	1
cirrhosis	1.00	1.00	1.00	1
colitis	1.00	1.00	1.00	1
confusion	1.00	1.00	1.00	1
delirium	1.00	1.00	1.00	1
delusion	1.00	1.00	1.00	1
dementia	1.00	1.00	1.00	1
endocarditis	1.00	1.00	1.00	1

gastroesophageal reflux disease	1.00	1.00	1.00	1
glaucoma	1.00	1.00	1.00	1
hemiparesis	1.00	1.00	1.00	1
hepatitis	1.00	1.00	1.00	1
hiv infections	1.00	1.00	1.00	1
hypertensive disease	1.00	1.00	1.00	1
insufficiency renal	1.00	1.00	1.00	1
ischemia	1.00	1.00	1.00	1
kidney disease	1.00	1.00	1.00	1
kidney failure acute	1.00	1.00	1.00	1
lymphoma	1.00	1.00	1.00	1
malignant neoplasms	0.00	0.00	0.00	0
malignant neoplasms	1.00	1.00	1.00	1
manic disorder	1.00	1.00	1.00	1
melanoma	1.00	1.00	1.00	1
paranoia	1.00	1.00	1.00	1
paroxysmal dyspnea	1.00	1.00	1.00	1
pneumonia	1.00	1.00	1.00	1
primary malignant neoplasm	0.00	0.00	0.00	1
sepsis (invertebrate)	1.00	1.00	1.00	1
transient ischemic attack	1.00	1.00	1.00	1
accuracy			0.97	30
macro avg	0.94	0.94	0.94	30
weighted avg	0.97	0.97	0.97	30

-----PERFORMANCE ANALYSIS FOR KNN CLASSIFIER-----

Real Test dataset labels:

```

16          bipolar disorder
55          endocarditis
124         pneumonia
89          ischemia
32          colitis
92          kidney failure acute
91          kidney disease
118         paranoia
69          hepatitis
1          HIV
80          hypertensive disease
67          hemiparesis
31          cirrhosis
101         manic disorder
94          lymphoma
133         sepsis (invertebrate)
120         paroxysmal dyspnea
100         malignant neoplasms
74          hiv infections
33          confusion
64          gastroesophageal reflux disease
41          delirium
88          insufficiency renal
42          delusion
43          dementia
25          cellulitis
102         melanoma
65          glaucoma
128         primary malignant neoplasm
145         transient ischemic attack

```

Name: disease, dtype: object

Predicted Test dataset labels:

```
[ 'anxiety state' 'decubitus ulcer' 'acquired-immuno-deficiency syndrome'
 'coronary arteriosclerosis' 'colitis' 'accidentocerebrovascular'
 'affect labile' 'decubitus ulcer' 'decubitus ulcer' 'HIV'
 'coronary arteriosclerosis' 'accidentocerebrovascular' 'cirrhosis'
 'affect labile' 'decubitus ulcer' 'decubitus ulcer' 'cardiomyopathy'
 'benign prostatic hypertrophy' 'HIV' 'accidentocerebrovascular'
 'decubitus ulcer' 'decubitus ulcer' 'decubitus ulcer' 'decubitus ulcer'
 'affect labile' 'affect labile' 'cholelithiasis' 'decubitus ulcer'
 'biliary calculus' 'accidentocerebrovascular']
```

	precision	recall	f1-score	support
HIV	0.50	1.00	0.67	1
accidentocerebrovascular	0.00	0.00	0.00	0
acquired-immuno-deficiency syndrome	0.00	0.00	0.00	0
affect labile	0.00	0.00	0.00	0
anxiety state	0.00	0.00	0.00	0
benign prostatic hypertrophy	0.00	0.00	0.00	0
biliary calculus	0.00	0.00	0.00	0
bipolar disorder	0.00	0.00	0.00	1
cardiomyopathy	0.00	0.00	0.00	0
cellulitis	0.00	0.00	0.00	1
cholelithiasis	0.00	0.00	0.00	0
cirrhosis	1.00	1.00	1.00	1
colitis	1.00	1.00	1.00	1
confusion	0.00	0.00	0.00	1
coronary arteriosclerosis	0.00	0.00	0.00	0
decubitus ulcer	0.00	0.00	0.00	0
delirium	0.00	0.00	0.00	1
delusion	0.00	0.00	0.00	1
dementia	0.00	0.00	0.00	1
endocarditis	0.00	0.00	0.00	1
gastroesophageal reflux disease	0.00	0.00	0.00	1
glaucoma	0.00	0.00	0.00	1
hemiparesis	0.00	0.00	0.00	1
hepatitis	0.00	0.00	0.00	1
hiv infections	0.00	0.00	0.00	1
hypertensive disease	0.00	0.00	0.00	1
insufficiency renal	0.00	0.00	0.00	1
ischemia	0.00	0.00	0.00	1
kidney disease	0.00	0.00	0.00	1
kidney failure acute	0.00	0.00	0.00	1
lymphoma	0.00	0.00	0.00	1
malignant-neoplasms	0.00	0.00	0.00	1
manic disorder	0.00	0.00	0.00	1
melanoma	0.00	0.00	0.00	1
paranoia	0.00	0.00	0.00	1
paroxysmal-dyspnea	0.00	0.00	0.00	1
pneumonia	0.00	0.00	0.00	1
primary malignant neoplasm	0.00	0.00	0.00	1
sepsis (invertibrate)	0.00	0.00	0.00	1
transient ischemic attack	0.00	0.00	0.00	1
accuracy			0.10	30
macro avg	0.06	0.07	0.07	30

weighted avg 0.08 0.10 0.09 30

-----PERFORMANCE ANALYSIS FOR SVM CLASSIFIER-----

Real Test dataset labels:

```

16          bipolar disorder
55          endocarditis
124         pneumonia
89          ischemia
32          colitis
92          kidney failure acute
91          kidney disease
118         paranoia
69          hepatitis
1          HIV
80          hypertensive disease
67          hemiparesis
31          cirrhosis
101         manic disorder
94          lymphoma
133         sepsis (invertebrate)
120         paroxysmal♦dyspnea
100         malignant♦neoplasms
74          hiv infections
33          confusion
64          gastroesophageal reflux disease
41          delirium
88          insufficiency renal
42          delusion
43          dementia
25          cellulitis
102         melanoma
65          glaucoma
128         primary malignant neoplasm
145         transient ischemic attack

```

Name: disease, dtype: object

Predicted Test dataset labels:

```

['bipolar disorder' 'endocarditis' 'pneumonia' 'ischemia' 'colitis'
'kidney failure acute' 'kidney disease' 'paranoia' 'hepatitis' 'HIV'
'hypertensive disease' 'hemiparesis' 'cirrhosis' 'manic disorder'
'lymphoma' 'sepsis (invertebrate)' 'paroxysmal♦dyspnea'
'malignant♦neoplasms' 'hiv infections' 'confusion'
'gastroesophageal reflux disease' 'delirium' 'insufficiency renal'
'delusion' 'dementia' 'cellulitis' 'melanoma' 'glaucoma'
'primary malignant neoplasm' 'transient ischemic attack']

```

	precision	recall	f1-score	support
HIV	1.00	1.00	1.00	1
bipolar disorder	1.00	1.00	1.00	1
cellulitis	1.00	1.00	1.00	1
cirrhosis	1.00	1.00	1.00	1
colitis	1.00	1.00	1.00	1
confusion	1.00	1.00	1.00	1
delirium	1.00	1.00	1.00	1
delusion	1.00	1.00	1.00	1
dementia	1.00	1.00	1.00	1
endocarditis	1.00	1.00	1.00	1

gastroesophageal reflux disease	1.00	1.00	1.00	1
glaucoma	1.00	1.00	1.00	1
hemiparesis	1.00	1.00	1.00	1
hepatitis	1.00	1.00	1.00	1
hiv infections	1.00	1.00	1.00	1
hypertensive disease	1.00	1.00	1.00	1
insufficiency renal	1.00	1.00	1.00	1
ischemia	1.00	1.00	1.00	1
kidney disease	1.00	1.00	1.00	1
kidney failure acute	1.00	1.00	1.00	1
lymphoma	1.00	1.00	1.00	1
malignant neoplasms	1.00	1.00	1.00	1
manic disorder	1.00	1.00	1.00	1
melanoma	1.00	1.00	1.00	1
paranoia	1.00	1.00	1.00	1
paroxysmal dyspnea	1.00	1.00	1.00	1
pneumonia	1.00	1.00	1.00	1
primary malignant neoplasm	1.00	1.00	1.00	1
sepsis (invertebrate)	1.00	1.00	1.00	1
transient ischemic attack	1.00	1.00	1.00	1
accuracy			1.00	30
macro avg	1.00	1.00	1.00	30
weighted avg	1.00	1.00	1.00	30

Pred: coronary arteriosclerosis
Actual: coronary heart disease

Pred: depression mental
Actual: depressive disorder

Pred: malignant neoplasms
Actual: primary malignant neoplasm

Pred: septicemia
Actual: systemic infection

In [5]: