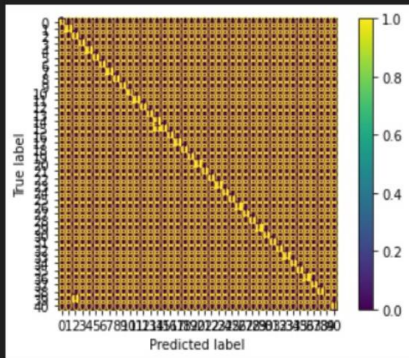


## Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID592183
Project Name	Project – Disease Prediction Using Machine Learning
Maximum Marks	10 Marks

### Model Performance Testing:

S.No.	Parameter	Values	Screenshot																																																																																																														
1.	Metrics	<b>Classification Model:</b> Confusion Matrix - , Accuray Score- , Classification Report -	<div><pre>[[1 0 0 ... 0 0 0] [0 1 0 ... 0 0 0] [0 0 1 ... 0 0 0] ... [0 0 0 ... 1 0 0] [0 0 1 ... 0 0 0] [0 0 0 ... 0 0 1]]</pre></div> <div></div> <div><div>accuracy0.95</div><table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>(vertigo) Parosymal</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Positional Vertigo</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>AIDS</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Acne</td><td>0.50</td><td>1.00</td><td>0.67</td><td>1</td></tr><tr><td>Alcoholic hepatitis</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Allergy</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Arthritis</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Bronchial Asthma</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Cervical spondylosis</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Chicken pox</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Chronic cholestasis</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Common Cold</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Dengue</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Diabetes</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Dimorphic hemorrhoids(piles)</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1</td></tr><tr><td>Drug Reaction</td><td>0.50</td><td>1.00</td><td>0.67</td><td>1</td></tr><tr><td>Fungal infection</td><td>1.00</td><td>0.50</td><td>0.67</td><td>2</td></tr><tr><td>...</td><td></td><td></td><td></td><td></td></tr><tr><td>accuracy</td><td></td><td></td><td>0.95</td><td>42</td></tr><tr><td>macro avg</td><td>0.95</td><td>0.96</td><td>0.95</td><td>42</td></tr><tr><td>weighted avg</td><td>0.95</td><td>0.95</td><td>0.94</td><td>42</td></tr></tbody></table></div>		precision	recall	f1-score	support	(vertigo) Parosymal	1.00	1.00	1.00	1	Positional Vertigo	1.00	1.00	1.00	1	AIDS	1.00	1.00	1.00	1	Acne	0.50	1.00	0.67	1	Alcoholic hepatitis	1.00	1.00	1.00	1	Allergy	1.00	1.00	1.00	1	Arthritis	1.00	1.00	1.00	1	Bronchial Asthma	1.00	1.00	1.00	1	Cervical spondylosis	1.00	1.00	1.00	1	Chicken pox	1.00	1.00	1.00	1	Chronic cholestasis	1.00	1.00	1.00	1	Common Cold	1.00	1.00	1.00	1	Dengue	1.00	1.00	1.00	1	Diabetes	1.00	1.00	1.00	1	Dimorphic hemorrhoids(piles)	1.00	1.00	1.00	1	Drug Reaction	0.50	1.00	0.67	1	Fungal infection	1.00	0.50	0.67	2	...					accuracy			0.95	42	macro avg	0.95	0.96	0.95	42	weighted avg	0.95	0.95	0.94	42
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2.	Tune the Model	Hyperparameter Tuning - (Not required due to high accuracy) Validation Method -	<div><div>In [36]: X = train.drop('prognosis',axis = 1) y = train.prognosis</div><div>In [37]: X_train, X_val, y_train, y_val = train_test_split(X,y,test_size = 0.2)</div><div>In [38]: test = data_preprocessing(test)</div><div>In [39]: X_test = test.drop('prognosis',axis = 1) y_test = test.prognosis</div></div> <table><thead><tr><th></th><th>Training Accuracy</th><th>Validation Accuracy</th><th>Testing Accuracy</th></tr></thead><tbody><tr><td>K Nearest Neighbors Classifier</td><td>1.00000</td><td>1.000000</td><td>1.00000</td></tr><tr><td>Support Vector Machines</td><td>1.00000</td><td>1.000000</td><td>1.00000</td></tr><tr><td>Decision Trees Classifier</td><td>1.00000</td><td>1.000000</td><td>0.97619</td></tr><tr><td>Random Forest Classifier</td><td>0.99873</td><td>0.998984</td><td>0.97619</td></tr></tbody></table>		Training Accuracy	Validation Accuracy	Testing Accuracy	K Nearest Neighbors Classifier	1.00000	1.000000	1.00000	Support Vector Machines	1.00000	1.000000	1.00000	Decision Trees Classifier	1.00000	1.000000	0.97619	Random Forest Classifier	0.99873	0.998984	0.97619
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