

I. NUMERICAL DATASET

1. Project Introduction

a. Dataset Name

(What is the dataset used?)

Travel Insurance Prediction Data

b. Number of classes and their labels

(Specify number of classes and their labels.)

Number of classes: 2

Labels: Is Travel Insurance (0 or 1)

c. Dataset Samples Numbers

(The total number of samples in dataset)

Number of samples: 1987

d. Training, Validation and Testing

(The number of samples used in training, validation and testing.)

Training: %80 => 1590

Testing: %16 =>318

Validation: %4 =>80

2.Implementation Details

a. Extracted Features

(How many features were extracted, their names, the dimension of resulted features)

Number of features: 8

Features: Employment Type, Graduate Or Not, Annual Income, Family Members, Chronic Diseases, Frequent Flyer, Ever Travelled Abroad.

Dimension of resulted feature: 1987 rows x 8 columns

b. Cross-validation

(Is cross-validation is used in any of implemented models? If yes, specify the number of fold and ratio of training/validation)

Cross validation was only used to plot learning curve in SVM model and it was set to 10.

c. Artificial Neural Network (ANN)

⌘ Hyper-parameters

(Specify all the hyper-parameters (initial learning rate, optimizer, regularization, batch size, no. of epochs...) with their specified value in implementation)

No. of epocs: 100

Hidden layers: 2

Batch size: 32

Learning rate: .001

Loss function: mse

Optimiser: adam

d. Support Vector Machine (SVM)

⌘ Hyper-parameters

(Specify all the hyper-parameters (optimizer, regularization, ...) with their specified value in implementation)

Kernel: poly

random-state: 0

probability: 1

C: 1.0

Degree: 3

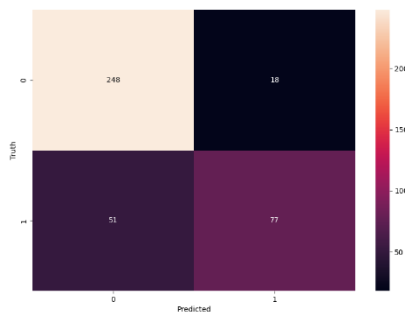
Gamma: scale

3. Models Results

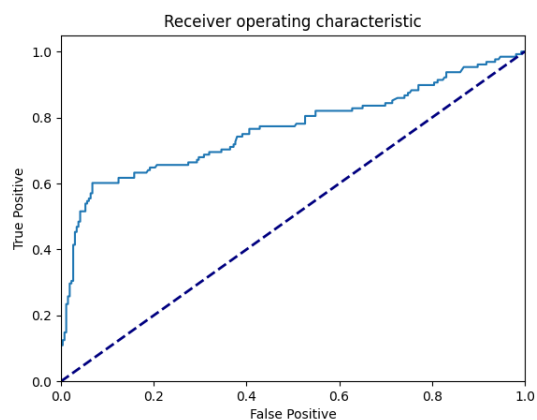
For each model you should show all these results for your model on testing data (loss curve, accuracy, confusion matrix, ROC curve)

a. ANN Results

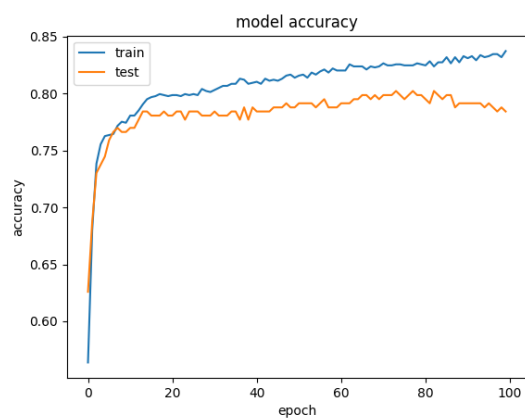
b. Confusion matrix



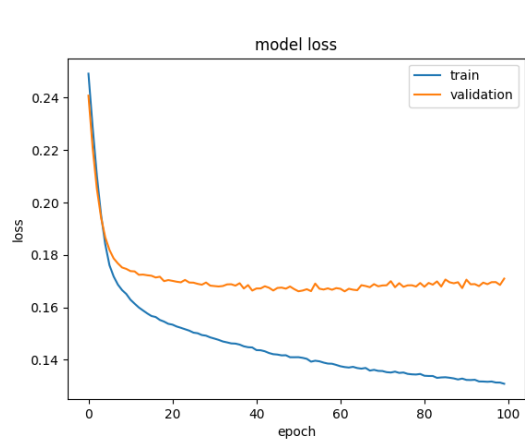
c. ROC curve



d. Accuracy curve

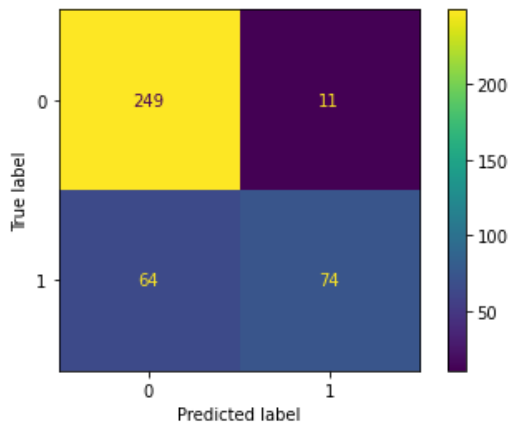


e. Loss curve

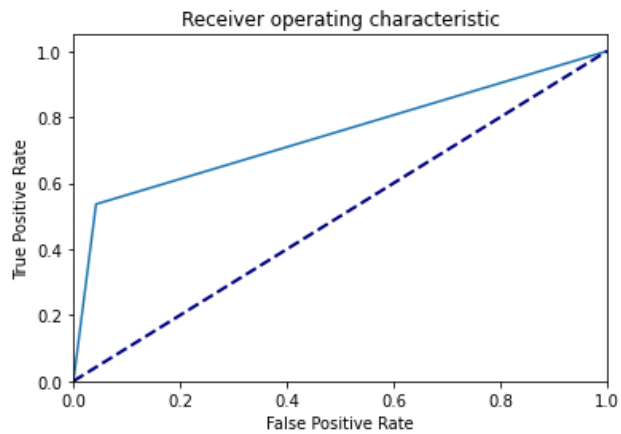


a.SVM Results

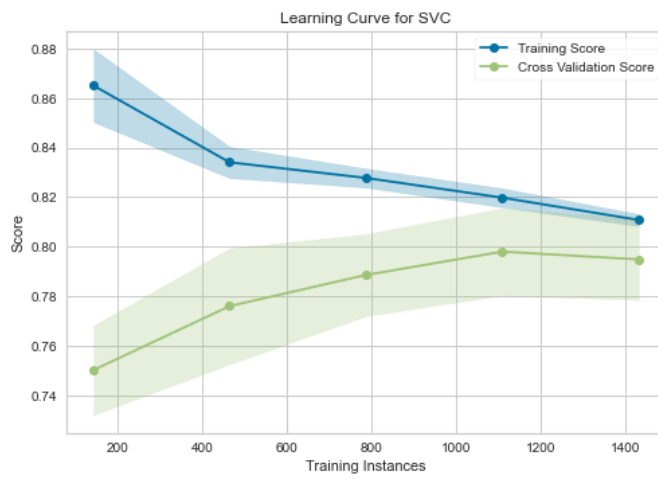
1- Confusion matrix



2- ROC curve



3- Learning rate curve



II. IMAGE DATASET

1. Project Introduction

a. Dataset Name

(What is the dataset used?)

Cat Vs Rabbit

b. Number of classes and their labels

(Specify number of classes and their labels.)

Number of Classes: 2

Labels: Rabbit And Cat

c. Dataset Images Numbers and size

(The total number of images in dataset and the size of each.)

Number of images: 2029

Size: (300 x 300)

d. Training, Validation and Testing

(The number of images used in training, validation and testing.)

Training: 1600

Validation: 414

Test: 15

2. Implementation Details

a. Extracted Features

(How many features were extracted, their names, the dimension of resulted features)

Number of extracted features: 1

Extracted feature: Mean Pixel Of RGB

Dimensions: (150x150)

b. Cross-validation

(Is cross-validation is used in any of implemented models? If yes, specify the number of fold and ratio of training/validation)

Cross validation was only used to plot learning curve in SVM model and it was set to 5.

c. Artificial Neural Network (ANN)

⌘ Hyper-parameters

(Specify all the hyper-parameters (initial learning rate, optimizer, regularization, batch size, no. of epochs...) with their specified value in implementation)

Epochs: 50

Batch size: 5

Optimizer: adam

Validation splits: 0.2

Hidden layer: 128

Loss: sparse_categorical_crossentropy

d. Support Vector Machine (SVM)

⌘ Hyper-parameters

(Specify all the hyper-parameters (optimizer, regularization, ...) with their specified value in implementation)

Regularization: 2

Kernel: rbh

Gamma: scale

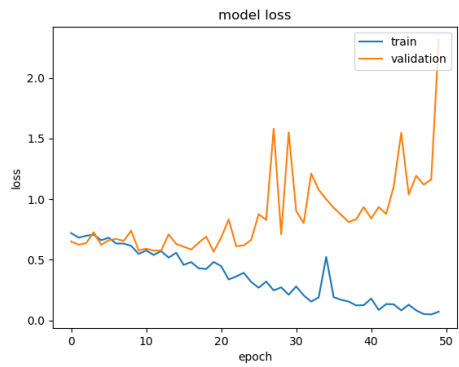
Decision function shape: ovr

3. Models Results

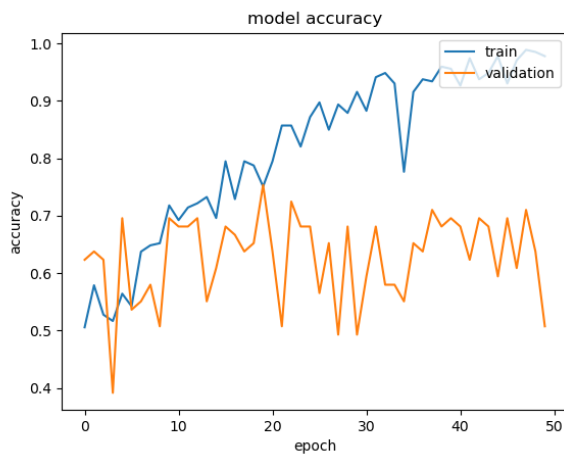
For each model you should show all these results for your model on testing data (loss curve, accuracy, confusion matrix, ROC curve)

a. ANN Results

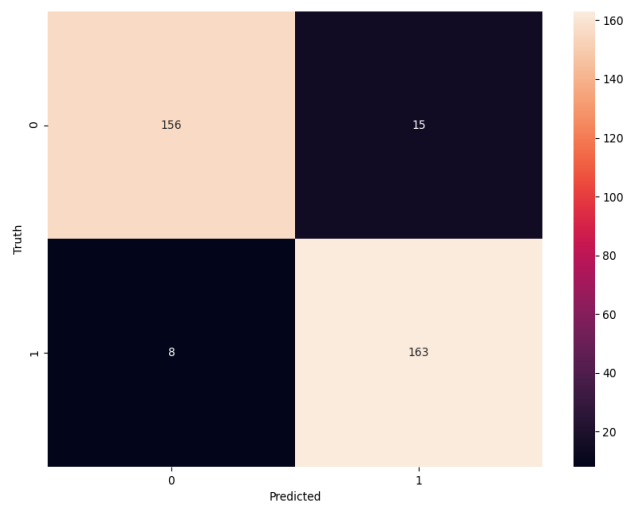
a. Loss Curve



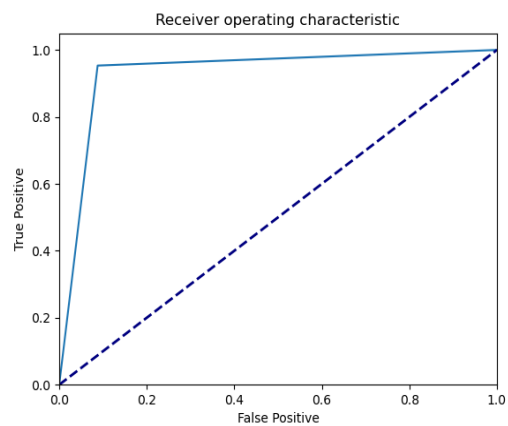
b. Accuracy Curve



c. Confusion Matrix

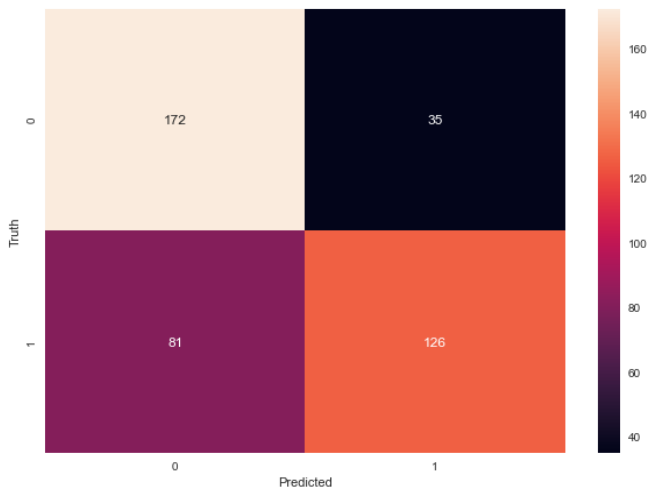


d. ROC Curve

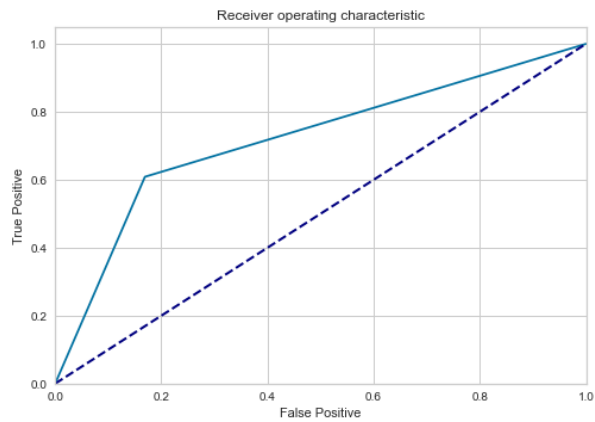


a.SVM Results

e. Confusion matrix



f. ROC curve



g. Learning rate curve

