

# Heart Disease Prediction using Neural Network

This project predicts the likelihood of heart disease using a Neural Network trained on the Kaggle 'Heart Failure Prediction' dataset. The model is built using TensorFlow and scikit-learn and evaluated using accuracy, confusion matrix, and performance metrics.

## Project Code and Outputs

Karthikbn2004 / MNIST-Digit-ClassificationPublic

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README

About

No description, website, or topics provided.

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Releases

No releases published

Packages

No packages published

Languages

Duthun100.0%

```
... Using Colab cache for faster access to the 'heart-failure-prediction' dataset.
✅ Dataset downloaded at: /kaggle/input/heart-failure-prediction
```

```
=== Dataset Preview ===
```

```
   Age Sex ChestPainType RestingBP Cholesterol FastingBS RestingECG MaxHR \
0    40  M           ATA         140         289         0     Normal   172
1    49  F           NAP         160         180         0     Normal   156
2    37  M           ATA         130         283         0           ST    98
3    48  F           ASY         138         214         0     Normal   108
4    54  M           NAP         150         195         0     Normal   122
```

```
   ExerciseAngina Oldpeak ST_Slope HeartDisease
0                N      0.0      Up            0
1                N      1.0     Flat            1
2                N      0.0      Up            0
3                Y      1.5     Flat            1
4                N      0.0      Up            0
```

```
Columns:
```

```
Index(['Age', 'Sex', 'ChestPainType', 'RestingBP', 'Cholesterol', 'FastingBS',
       'RestingECG', 'MaxHR', 'ExerciseAngina', 'Oldpeak', 'ST_Slope',
       'HeartDisease'],
      dtype='object')
```

\*\*\* Missing values:  
Age 0  
Sex 0  
ChestPainType 0  
RestingBP 0  
Cholesterol 0  
FastingBS 0  
RestingECG 0  
MaxHR 0  
ExerciseAngina 0  
Oldpeak 0  
ST\_Slope 0  
HeartDisease 0  
dtype: int64  
Model: "sequential"

Layer (type)	Output Shape	Param #
dense (Dense)	(None, 32)	512
dense_1 (Dense)	(None, 16)	528
dense_2 (Dense)	(None, 1)	17

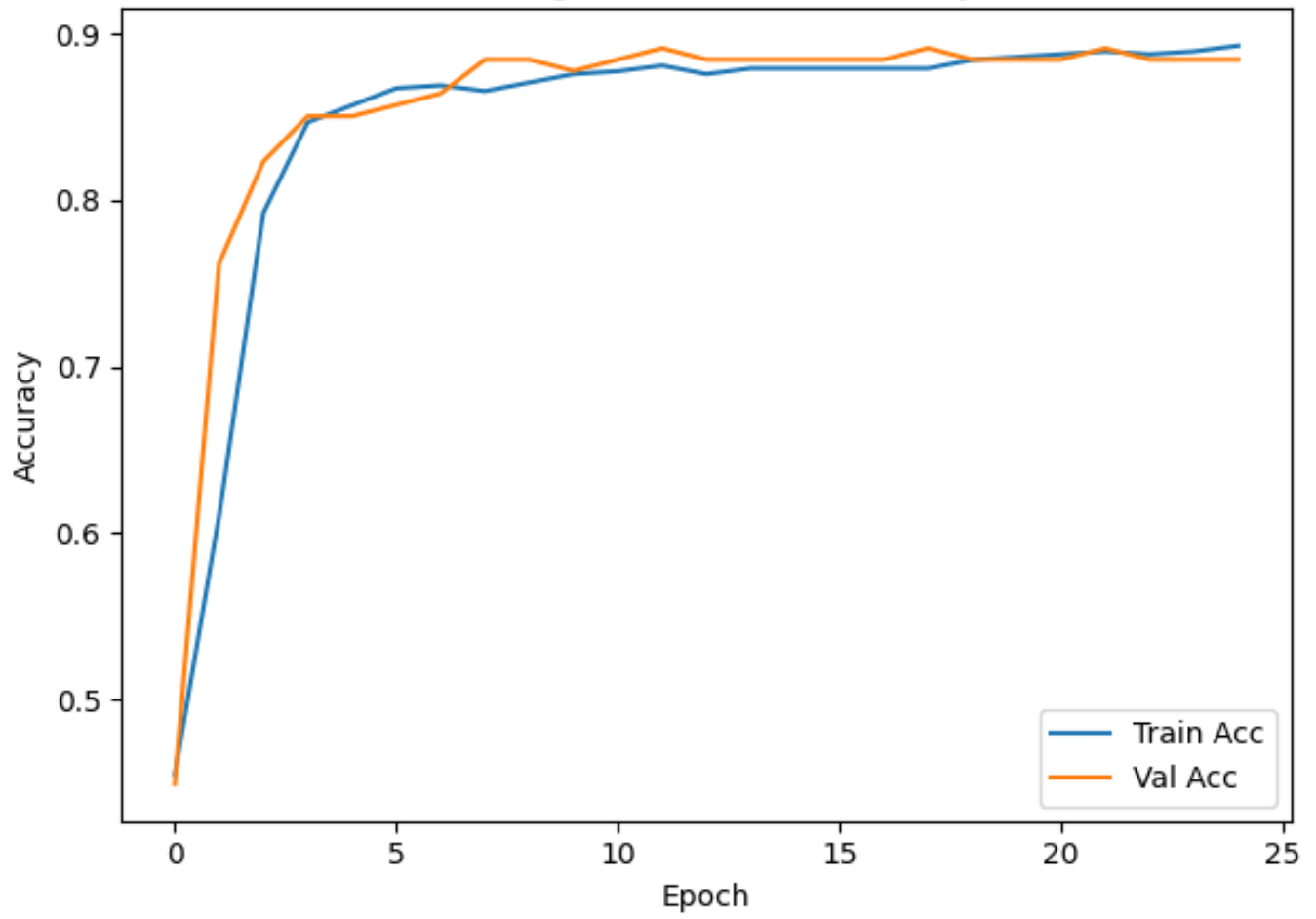
Total params: 1,057 (4.13 KB)  
Trainable params: 1,057 (4.13 KB)  
Non-trainable params: 0 (0.00 B)

\*\*\*  FINAL TEST ACCURACY: 0.8587

#### Classification Report:

	precision	recall	f1-score	support
0	0.8590	0.8171	0.8375	82
1	0.8585	0.8922	0.8750	102
accuracy			0.8587	184
macro avg	0.8587	0.8546	0.8562	184
weighted avg	0.8587	0.8587	0.8583	184

Training vs Validation Accuracy



Confusion Matrix — Heart Disease Detection

