

```
from google.colab import drive
drive.mount('/content/drive')
```

Mounted at /content/drive

```
!unzip "/content/drive/MyDrive/Colab Notebooks/mmt/Classification of Arrhythmia by Using Deep
```

Streaming output truncated to the last 5000 lines.

```
inflating: data/train/Premature Ventricular Contractions/fig_1532.png
inflating: data/train/Premature Ventricular Contractions/fig_1533.png
inflating: data/train/Premature Ventricular Contractions/fig_1534.png
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inflating: data/train/Premature Ventricular Contractions/fig_1571.png
```

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inflating: data/train/Premature Ventricular Contractions/fig_1572.png
inflating: data/train/Premature Ventricular Contractions/fig_1573.png
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inflating: data/train/Premature Ventricular Contractions/fig_1582.png
inflating: data/train/Premature Ventricular Contractions/fig_1583.png

```

▼ Import the Libraries:

```

from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense
from tensorflow.keras.layers import Convolution2D
from tensorflow.keras.layers import MaxPooling2D
from tensorflow.keras.layers import Flatten

```

▼ Import The Image data Generator

```

from tensorflow.keras.preprocessing.image import ImageDataGenerator

```

▼ Configure Image Data Generator Class

```

train_datagen = ImageDataGenerator(rescale = 1./255, shear_range = 0.2, zoom_range = 0.2, horizontal_flip = True)
test_datagen = ImageDataGenerator(rescale = 1./255)

```

▼ Apply Image Data Generator Functionality To Trainset and Testset

```

x_train = train_datagen.flow_from_directory("/content/data/train", target_size = (64,64), batch_size = 32)
x_test = test_datagen.flow_from_directory("/content/data/test", target_size = (64,64), batch_size = 32)

```

```

Found 15341 images belonging to 6 classes.
Found 6825 images belonging to 6 classes.

```

```
x_train.class_indices

{'Left Bundle Branch Block': 0,
 'Normal': 1,
 'Premature Atrial Contraction': 2,
 'Premature Ventricular Contractions': 3,
 'Right Bundle Branch Block': 4,
 'Ventricular Fibrillation': 5}
```

▾ Adding CNN Layers:

```
model = Sequential()

model.add(Convolution2D(32,(3,3),input_shape = (64,64,3),activation = "relu"))

model.add(MaxPooling2D(pool_size = (2,2)))

model.add(Convolution2D(32,(3,3),activation='relu'))

model.add(MaxPooling2D(pool_size=(2,2)))

model.add(Flatten()) # ANN Input...
```

▸ Adding Dense Layers:

```
[ ] ↳ 5 cells hidden
```

▸ Adding Output Layer:

```
[ ] ↳ 3 cells hidden
```

▸ Train the model:

```
[ ] ↳ 1 cell hidden
```

► Save the model:

```
[ ]
```

► Testing the model:

```
[ ] ↳ 11 cells hidden
```

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