- ∨ **IBM_FLASK**
  - ∨ static
    - > css
    - > js
    - heart_arrhytmia.jpg
    - heart_reading_about...
    - lbbb.png
    - normal.png
    - pac.png
    - pvc.png
    - rbbb.png
    - vf.png
  - ∨ templates
    - home.html
    - information.html
    - predict_base.html
    - predict.html
  - templates_refrence
  - app_IBM_flask.py
- ECG_IBM.h5

```python
import os
import numpy as np #used for numerical analysis
from flask import Flask,request,render_template
from tensorflow.keras.models import load_model#to load our trained model
from tensorflow.keras.preprocessing import image
app=Flask(__name__)#our flask app
model=load_model('ECG_IBM.h5')#loading the model
@app.route("/") #default route
def about():
    return render_template("home.html")#rendering html page
@app.route("/about") #default route
def home():
    return render_template("home.html")#rendering html page
@app.route("/info") #default route
def information():
    return render_template("information.html")#rendering html page
@app.route("/upload") #default route
def test():
    return render_template("predict.html")#rendering html page
@app.route("/predict",methods=["GET","POST"]) #route for our prediction
def upload():
    if request.method=='POST':
        f=request.files['file'] #requesting the file
        basepath=os.path.dirname('__file__')#storing the file directory
        filepath=os.path.join(basepath,"uploads",f.filename)#storing the file in uploads folder
        f.save(filepath)#saving the file
        img=image.load_img(filepath,target_size=(64,64)) #load and reshaping the image
        x=image.img_to_array(img)#converting image to array
        x=np.expand_dims(x,axis=0)#changing the dimensions of the image
```

Welcome To ECG- Image Based Heartbeat Classification Application For Arrhythmia Detection

NORMAL

Note that the heart is beating in a regular sinus rhythm between 60 - 100 beats per minute (specifically 82 bpm). All the important intervals on this recording are within normal ranges.

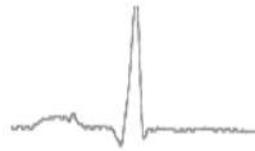The normal ECG patterns seen in children differ considerably from those in adults.
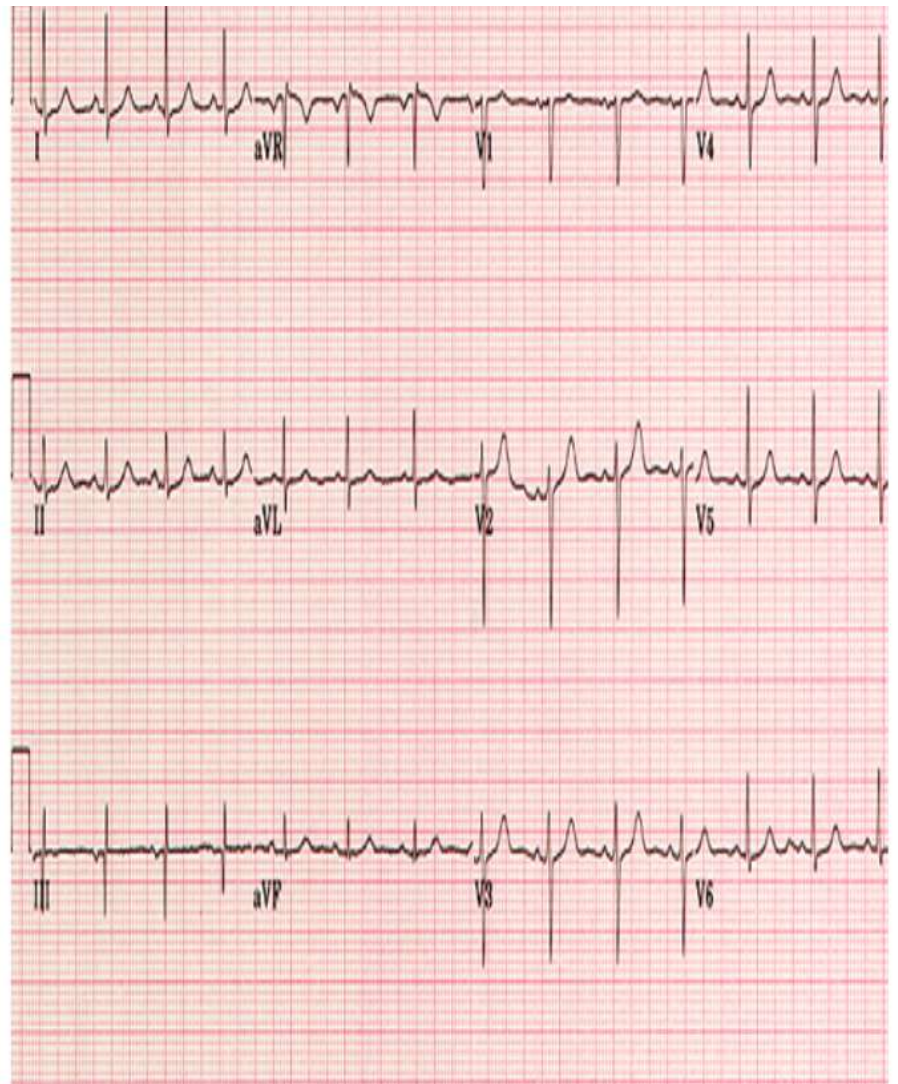
RIGHT BUNDLE BRANCH BLOCK

Right bundle branch block is associated with structural changes from stretch or ischemia to the myocardium. It can also occur iatrogenically from certain common cardiac procedures, such as right heart catheterization. Although there is no significant association with cardiovascular risk factors, the presence of a right bundle branch block is a predictor of mortality in myocardial infarction, heart failure, and certain heart blocks. In asymptomatic patients, isolated right bundle branch block typically does not need further evaluation.
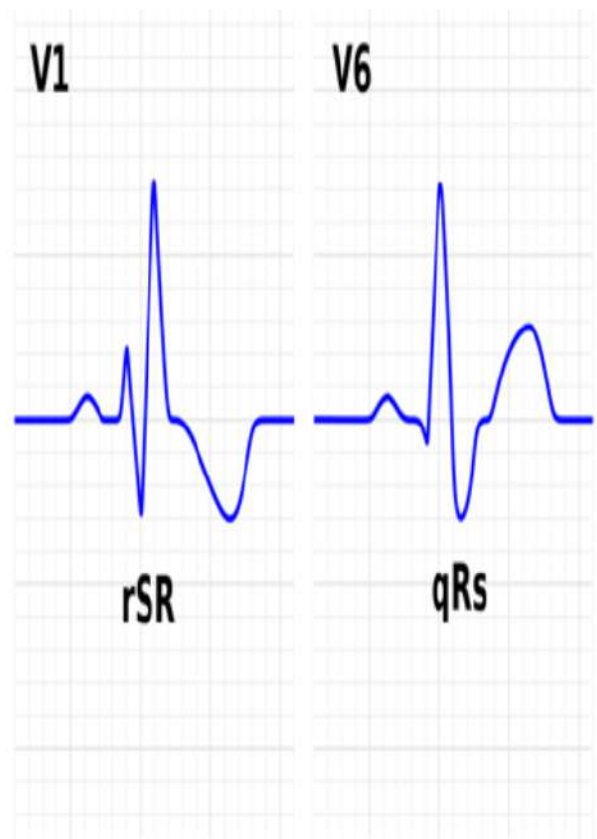
ECG Arrhythmia Classification

Choose...

Result: Normal