

Classification of Arrhythmia by Using Deep Learning with 2D ECG Spectral Image Representation

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| Team ID | PNT2022TMID44944 |
| Project Name | Classification of arrhythmia by using deep learning with 2d ecg spectral image representation |

Project Objectives:

We propose to build an effective electrocardiogram (ECG) arrhythmia classification method using a Convolutional Neural Network (CNN), in which we classify ECG into six different categories namely:

- Left Bundle Branch Block
- Normal
- Premature Atrial Contraction
- Premature Ventricular Contractions
- Right Bundle Branch Block
- Ventricular Fibrillation

We intend on creating a web application where the user selects the image which is to be classified. The image is fed into the model that is trained on publicly available datasets of ECG and is accordingly classified into one of the above mentioned classes which will be displayed on the webpage. Technologies needed for development Upon research it was found that we need require a sound knowledge of the following software technologies for the systematic completion of the project:

- HTML/CSS/JavaScript/Bootstrap – Front End Development
- Python
- TensorFlow
- Image Processing Basics
- Flask – Backend Development
- Git & GitHub – Project Management

- IBMCloud–Hosting
- IBMWatson–TrainingtheDeep LearningModel