

Classification of Arrhythmia by Using Deep Learning with2-DECGSpectralImageRepresentation

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ProjectName	Classification of arrhythmia by using deeplearning with 2d ecg spectral image representation

ProjectObjectives:

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:

- LeftBundleBranchBlock
- Normal
- PrematureAtrialContraction
- PrematureVentricularContractions
- RightBundleBranchBlock
- VentricularFibrillation

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 – FrontEnd Development
- Python
- TensorFlow
- Image Processing Basics
- Flask – Backend Development
- Git & GitHub – Project Management

- IBMCloud–Hosting
- IBMWatson–TrainingtheDeep LearningModel