

## **SPRINT 4:** Classification of Arrhythmia by Using Deep Learning With 2-D ECG Spectral Image Representation

**Team ID:** PNT2022TMID53169

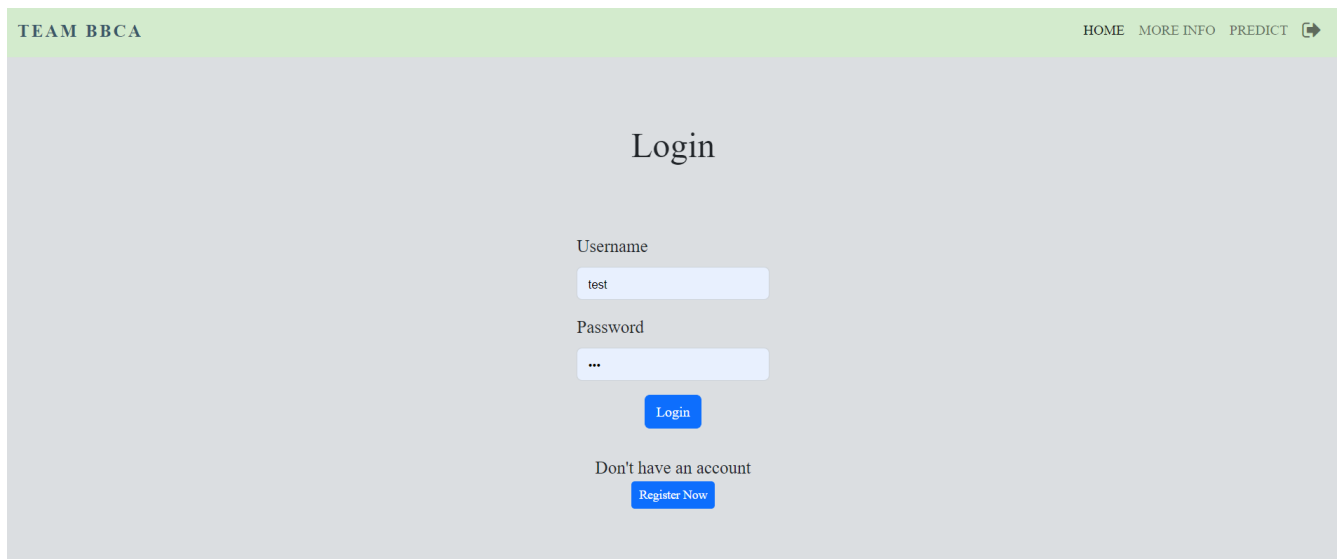
**Team Members:** Anirudh BS, Bhuvaneswar AS, Bhavesh N, Chirag Bheemaiah PK

**Code: Updated in GitHub in the Deliverables section in Sprint4 folder.**

### **Description of USN and Screenshots:**

#### **USN-5:**

As a user, I can log into the application by entering email & password  
Screenshot:



TEAM BBKA

HOME MORE INFO PREDICT →

### Login

Username

test

Password

...

Login

Don't have an account

Register Now

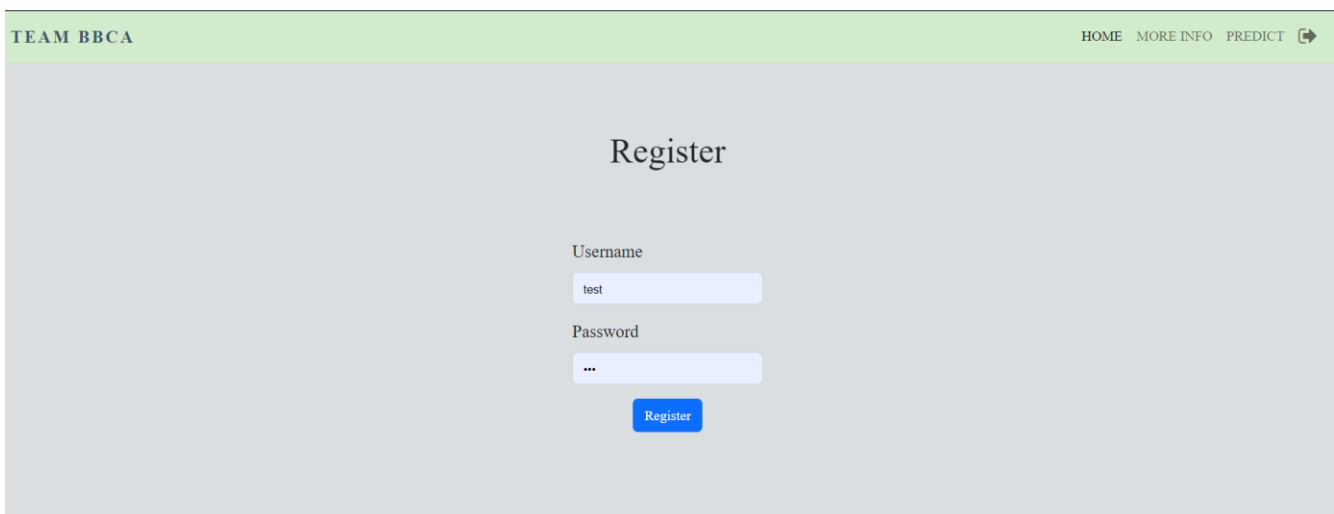
## ECG Arrhythmia Classification Using CNN

According to the World Health Organization (WHO), cardiovascular diseases (CVDs) are the number one cause of death today. Over 17.7 million people died from CVDs in the year 2017 all over the world which is about 31% of all deaths, and over 75% of these deaths occur in low and middle-income countries. Arrhythmia is a representative type of CVD that refers to any irregular change from the normal heart rhythms. There are several types of arrhythmia including atrial fibrillation, premature contraction, ventricular fibrillation, and tachycardia. Although a single arrhythmia heartbeat may not have a serious impact on life, continuous arrhythmia beats can result in fatal circumstances. In this project, we build an effective electrocardiogram (ECG) arrhythmia classification method using a convolutional neural network (CNN), in which we classify ECG into seven categories, one being normal and the other six being different types of arrhythmia using deep two-dimensional CNN with grayscale ECG images. We are 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 and the cited class will be displayed on the webpage.

### USN-1:

As a user, I can register for the application by entering my email, password, and confirming my password.

Screenshot:



The screenshot shows the 'Register' page of the web application. It features a light green header with 'TEAM BBKA' on the left and navigation links 'HOME', 'MORE INFO', 'PREDICT', and an arrow icon on the right. The main content area has a light gray background. Centered on the page is the title 'Register' in a large, dark font. Below the title are two input fields: 'Username' with the text 'test' and 'Password' with three dots indicating a masked password. A blue 'Register' button is positioned below the password field.

## USN-11:

As a user, it must be accessible on a single website for both mobile, PC users with it being hosted on cloud.

Screenshot:

