Methodology

For any character recognition system, there are four major stages namely pre-processing, Segmentation, Feature extraction, Classification and Recognition.

Step 1:

Character Recognition System: we use Ant Miner Algorithm.

Step 2: Feature Extraction:

To extract the feature vectors from the normalized images, a sliding window approach is used. The seven features are the following:

1. The mean gray value of pixels
2. The center of gravity of the pixels
3. The second-order vertical moment of the center of gravity
4. The positions of the uppermost and lowermost block of the pixels
5. The rate of change of these positions
6. The number of black-white transitions between the uppermost and lowermost pixels

7. The proportion of black pixels between the uppermost and lowermost pixels

**Step 3: Recurrent Neural Network:**

A Recurrent Neural Network (RNN) is connections of model containing a self-connected hidden layer. RNNs provide a very elegant way of dealing with sequential data that embodies correlations between data points that are close in the sequence. RNN has the ability to make use of previous context.
6. Work plan:

- Six months dedicated to do literature.
- In second half of year dedicated to collect research papers on results of automatic handwritten text generation.
- After one year in DRC, Title and Objectives are decided and fixed.
- After DRC, Summary is to be submitted along with results obtained.
- After Summary, Thesis is to be prepared of around 200 pages.
- Thesis is sent for Plagiarism.
- After Plagiarism, Prethesis Viva is to be given.
- Final viva to be conducted.
- Award