**M.Tech-II Dissertation Details**

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**1. Proposed Title of your Dissertation Topic**

Consonant recognition of Marathi Devnagari script from documents using Machine Learning techniques.

**2. Domain area of your topic**

* Machine Learning
* Artificial Neural Network
* Deep Learning.

**3. Motivation behind the selection of Topic**

'**Time Optimization using Digitization**' : There are many historical books and letters available which are difficult to digitize because it is difficult, time consuming and costly. Historical documents are written in the Marathi language which contains print and paper quality inferior due to aging. Existing OCR (Optical Character Recognition) systems generally show poor performance on this task. However very little research has specifically addressed the lack of uniform data sets for Devanagari script.

**4. Scope of work for you in the chosen area**

Marathi is written in the Devanagari script. It consists of 11vowels, 40 consonants, and 2 sound modifiers. There are 80 million people speaking Marathi language. Devanagari is being used for writing not only Marathi but also Sanskrit, Hindi, Konkani, Nimadi, etc. Major Scope is to convert scanned document into Machine understandable UTF format.

* Detect Text Characters using image processing
* Recognise Characters
* Translate into UTF(Unicode Transformation Format).

**5. Brief summary of the work you intended to proceed for**

Devnagari script having lack of uniform data sets, so beginning must be with collection and creation of uniform datasets for Marathi with some font library. Along with this, proceeding with image processing to detect the character from the images. Once characters are detected, recognition of this will be done by using deep learning and/or Artificial Neural Network techniques.

Using the image processing ,machine learning it is very much possible to recognize marathi devnagari script and convert it into UTF format .