

# OPTIMIZATION SEMINAR

**Wednesday – 13 Nov 2013**

**1:00 to 1:50 p.m.**

**E575**

**Speaker:** ANIK SAHA, MSc Student

**Title:** *BANGLA CHARACTER RECOGNITION USING ARTIFICIAL NEURAL NETWORK*

**Abstract:** In this paper, a method is proposed for recognizing printed Bangla Character that uses artificial neural network. The proposed Bangla Character recognition method consists of three basic steps. Initially, convert the input character image to binary image and then normalize the binary character image. Secondly, the normalized binary images send into the proposed neural network which consists of 144 input neurons and 100 output neurons. No hidden layer is used here. In that stage, random weight between input layer and output layer neuron is taken. Then we apply our proposed training algorithm to train the network. Finally, choose a normalized character matrix and using proposed testing algorithm, the corresponding character is recognized and represented into editable text format. Vowels, Consonants, Compound characters and Digits can be recognized by this technique. This paper recognizes font size [26-78] of 99% accuracy of the font type that we have trained.

**Keywords:** Bengali Character, Neural network, Character Recognition, Unsupervised learning