

### Preamble

Deep learning is a form of machine learning that enables computers to learn from experience and understand the world in terms of a hierarchy of concepts. The hierarchy of concepts allows the computer to learn complicated concepts by building them out of simpler ones; a graph of these hierarchies would be many layers deep. Over the last few years, deep learning and neural networks have grown wildly. For e.g., Google had two deep learning projects underway in 2012. Today it is pursuing more than 1000, according to their spokesperson, in all its major product sectors, including search, Android, Gmail, translation, maps, YouTube, and self-driving cars. We are now living in an age when it has become mandatory for people building sophisticated software applications to avoid click through menus by incorporating natural language processing tapping deep learning.

Deep learning methods have dramatically improved the state-of-the-art in speech recognition, visual object recognition, object detection and many other domains such as drug discovery and genomics. Deep learning discovers intricate structure in large data sets by using the backpropagation algorithm to indicate how a machine should change its internal parameters that are used to compute the representation in each layer from the representation in the previous layer. Deep convolutional nets have brought about breakthroughs in processing images, video, speech and audio, whereas recurrent nets have shone light on sequential data such as text and speech.

### About the Department

The UG programme in Electronics & Communication Engineering started in 1980 in the Department of Electrical Engineering. The rapid development in Electronics and Communications initiated the inception of a separate Department of Electronics & Communication Engineering in 1997, after the trifurcation of the Department of Electrical Engineering. The department also offers four regular M. Tech programmes, viz., Electronics Design & Technology, Microelectronics & VLSI Design, Signal Processing and Telecommunication leading to the M. Tech degree of the institute. In addition to the above, there are a number of students pursuing research at the Department in various fields of Electronics & Communication Engineering leading to Ph.D. The Department is a recognized QIP Centre of the AICTE for both M. Tech and Ph.D. programs. The Department is also actively engaged in R&D activities. Sponsored research programmes funded by various agencies are undertaken by the faculty of the department.

### About NIT Calicut

National Institute of Technology Calicut (NITC), is fully centrally funded by MHRD and is governed by the NIT Act 2007. Institute has ten departments, three schools and nine research centers. It offers ten UG, and thirty PG programmes along with the Ph.D programme in various fields of Science, Technology and Engineering. Faculties in the various Departments have active collaborations with universities and elite institutions within and outside India for research and have active consultancy for industries.

INDUSTRY INSTITUTE INTERACTION  
PROGRAM

## Five days workshop on Deep learning

December 18-22, 2018



Organized by

**Department of Electronics and  
Communication Engineering**



तमसो मा ज्योतिर्गमय

**National Institute of Technology  
Calicut**

Kozhikode, Kerala – 673601

### **Course content**

The five days workshop is designed to provide the state of the art trends and advancements of machine learning and develop a clear understanding of the motivation for deep learning. The main objectives of the workshop is to provide a hands-on training experience in deeplearning and the programme will cover the following topics:

- Logistic regression
- Artificial neural network
- Convolutional neural network
- Recurrent neural network
- Keras & Tensorflow
- Scikit

### **Resource persons**

All the sessions will be handled by faculty of NITC and invited experts from industry.

### **Eligibility**

The Workshop is open to Faculty members from AICTE/UGC approved academic institutions/IT professionals/Research Scholars/PG students/ Government Employees working in the relevant field.

### **Selection**

Selection will be on first-come-first-served basis and will be intimated through e-mail. *The maximum seats for participants are 40.*

For registration, the scanned copy of the duly filled endorsement form along with the online payment receipt should be mailed to:

[workshopnitc@gmail.com](mailto:workshopnitc@gmail.com).

Also, mention your name, official address and phone number in the mail.

### **Registration fee**

The fee (including GST) for participants has been given below:

- Faculty: Rs. 4000 +18% GST
- Industry/Research Organizations: Rs. 6000+18% GST
- Full-time Research Scholars/PG Students: Rs. 1500+18% GST

This includes only registration materials. Boarding and Lodging will be extra.

### **Boarding & lodging**

Boarding & Lodging (limited) will be provided for participants in either the Institute Guest House or International Hostel on chargeable basis, based on their request.

- International hostel Rs. 450/Room
- Ladies hostel Rs. 250/Room
- Boys hostel Rs. 250/Room
- Guest house Rs. 350/Room

### **Travel expenses**

No TA/DA will be paid for any participant. Parent Institutions are expected to provide the support.

The bank details are given below for online transfer.

**Acc. Name: Director NIT Calicut, Continuing education programme, Account No: 37618269594; Branch: SBI NIT Calicut, IFSC code: SBIN002207**

### **Endorsement of the Head of the Institution/Department**

Certified that Mr./ Ms./ Dr. ----- is an employee of this institution and is hereby sponsored for the five-day workshop on **Deep Learning** at NIT Calicut during 18<sup>th</sup> -22<sup>nd</sup> December 2018. He/she will be permitted to attend the course, if selected.

Name & Signature of the Sponsoring Authority  
(*seal of the institution*)

Place:

Date:

### **Important Dates**

**Last date of registration:**

5<sup>th</sup>December 2018

### **Coordinators**

**Dr. Sudeep P. V.**

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