

Patron:

Prof. S. Birendra Singh
Director, NIT Manipur

Conveners:

Dr. Prakash Choudhary
HOD, Computer Science and Engineering

Dr. Kh. Manglem Singh
Dean (Academic)

Dr. KhelchndraThongam

Dr. Y. Jina Chanu

Members:

Mr. Khundrakpam Johnson Singh

Ms. Chingakham Neeta Devi

Mrs. AnuradhaLaishram

Ms. TeressaLongjam

Mr. SanabamBineshwor Singh

Mrs. MaibamMangalleibiChanu

Mr. NgangbamHerajit Singh

Mr. SaikyaKhundrakpam

Mrs. KshetrimayumMerina Devi

Ms. Nirvana Thokchom

Mr. PanthoiMeetei

Ms. SanasamRenubala Devi

NIT Manipur Location

The Institute has two campus (Permanent and temporary). Permanent campuses is located at Langol Lamphel and Temporary at Takyel. Both the campuses are around 4-6 km from airport and within 3km from bus stand.

By Air

Imphal is the second largest airport in the North East region with air connectivity to KOLKATA, NEW DELHI, GUWAHATI, AIZAWL & SILCHAR by Air services. Daily flights are available form Delhi, Kolkata and Guwahati with more than 3 flights daily.

Resource Persons:

- Prof. Ujjwal Bhattacharya
ISI Kolkata
- Dr. Debdoot Sheet
IIT Kharagpur
- Prof. Rishi Pal Singh
GJUST, Hisar Haryana
- Dr. Thoudam Doren Singh
IIIT Manipur

Address for communication:

Dr. Prakash Choudhary

Ph. 09982114196

Email:choudharyprakash87@gmail.com

choudharyprakash@nitmanipur.ac.in

Dr. Jina Chanu

Ph. 08974465178

Email: jina.yambem@gmail.com

A FIVE-DAY WORKSHOP

on

DEEP LEARNING AND APPLICATIONS

12-16 MARCH, 2018



Sponsored by:

**Technical Education Quality Improvement
Program – III**

Organized by:

**Dept. of Computer Science and Engineering
National Institute of Technology Manipur**

Imphal - 795001

INDIA

ABOUT THE INSTITUTE

National Institute of Technology Manipur, a centrally funded institution is set up to impart quality technical education at various levels of higher learning. It is one of the ten new NITs established and developed as Institute of National Importance by an act of Parliament. NIT Manipur started its first session with the three branches of Engineering – Computer Science & Engineering, Electrical and Electronic Engineering, Electronics and Communication Engineering. The functioning of institute was started at its temporary Campus at Takyelpat, Imphal under the mentorship of NIT Agartala. The Institute has acquired 138.2 hectare of land in the lush green area of Langol, Imphal and started its functioning at its permanent campus since 2014. This Institute has now 5 branches of Engineering viz CSE, EEE, ECE, Civil, Mechanical and Basic Science and Humanities Department and open courses on B.Tech.,M.Tech., M.Sc. and Ph.D.

About the Department

The Department of Computer Science and Engineering, which started in 2010, has qualified and devoted faculty members. Presently the department offers B.Tech, M.Tech and Ph.D. programmes. The departmental research is focused in Image Processing, Computer Vision, Deep Learning, Pattern Recognition, Information Security, and Artificial Intelligence & Robotics. The department has the state of the art laboratory and research facilities. There are currently 18 research scholars pursuing Doctoral programme in CSE.

Feel close to technology

Artificial Intelligence connect machines to human

Pre-requisite Knowledge

- Knowledge of any programming language (basics of python is desirable)
- Basic knowledge of neural network
- Basics of image processing (Segmentation, classification)
- Dedicated to working in the field of deep learning

Methodologies

The workshop will orient the participants to the in-depth analysis of Deep Learning along with their applications in a practical way. The workshop will be based on the applications of CNN, RNN and LSTM in computer vision and hands-on training for object detection, object segmentation, classification and retrieval of images using Python. By the end of this workshop, the participants will become meticulously aware of CNN, RNN, and LSTM and will have set of algorithms which they will be able to apply to their applications and data sets.

Topics to be covered

- Basics of Neural Network
- Multi-layer Perceptron
- Deep Neural Network
- Learning strategies and cost functions
- Computational complexity estimation issues in Neural Network
- Application of Neural Network for image analysis
- Convolutional Neural Network (CNN) and its variants
- Parameters Optimization in CNN
- Application of CNN for classification, regression and semantic segmentation
- Introduction to Machine Learning
- Nuts and Bolts of Machine Learning
- Application of Machine Learning
- Kernel tricks
- Parametric and non-parametric machine learning methods
- Radial Basis Function (RBF) Networks
- Recurrent Neural Network (RNN)
- LSTM Networks
- Medical Image Processing and its application

A year spent in artificial intelligence is enough to make one believe in God.

Intended participants are

PG students, research scholars, Ph.D. students, faculty and professionals

Important dates/deadlines

- Registrant Start: 15/02/2018
- Last date of registration: 12/03/2018
- Workshop first day: 12/03/2018
- Workshop last day: 16/03/2018
- Certificate distribution: 16/03/2018
- On Spot registration may be available for outstation students.
- No TA/DA will be given to participants.

Workshop Fees

- Rs. 1,000/- per participant for the workshop.
- The maximum number of participant is 50. It will be based on first come first serve.
- The workshop fee will have to be paid in advance by all the participants.

Decisive Advantages:

- This workshop will include majorly all basics and in-hand knowledge of network and models involved in deep learning.
- Chances of collaboration with professionals will be high.
- This workshop will be perfect for new starters.
- CNN, RNN, and LSTM are the powerful and well established deep learning techniques which come handy to many researchers because of capabilities of these networks. The participants will go through the in-depth details and practical implementations issues and techniques to deal with these issues.
- Fusion of different deep learning models is a challenging and innovative way of dealing with complex problems. The workshop will equip the participants with hands-on experience of different fusion techniques and their challenges.
- The workshop will be illuminated by highly experienced and energetic instructor who possess the industry experience of deep learning techniques.

Registration Form

Five Day Workshop
on
Deep Learning and Applications
12-16 March 2018

Name: _____

Designation: _____

Organization: _____

Mailing Address: _____

Telephone: _____

Fax: _____

Email: _____

Registration Fee Details

Amount: _____

Mode of Payment: _____

Date: _____

Signature of Applicant