Faculty Development Program
On
Deep Learning & Its Applications

Under the banner of
Electronics and ICT academy at National Institute of Technology Patna

17th June to 22nd, 2020

Patron
Prof. P. K. Jain
Director, NIT Patna

Coordinators
Dr. Mukesh Kumar, NIT Patna

Organized by
Electronics and ICT Academy, National Institute of Technology Patna, Patna- 800005. India.
www.nitp.ac.in/ict/

Supported by
Ministry of Electronics and Information Technology, MeitY, Govt. of India.

About NIT Patna
National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erstwhile Bihar College of Engineering Patna on 28.01.2004. NIT Patna marked its humble beginning in 1886 with the establishment of pleaders survey training school which was subsequently promoted to Bihar College of Engineering Patna in 1924. This made this institute the 6th oldest Engineering Institute of India. The Institute is situated on the south bank of holy river Ganges behind Gandhi Ghat (where the ash of father of the Nation, Mahatma Gandhi was offered in the river Ganges). The campus has a picturesque river view with historic building presenting a spectacle of architecture delight and natural beauty. The Institute imparts high level education training, research and development in science, engineering technology and humanities along with high quality education and values at UG, PG and Ph.D. level. At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. And Mechanical Engg. It also consists of well-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

Objective and Scope
Deep learning is a subset of machine learning in artificial intelligence (AI) that has networks capable of learning unsupervised/supervised from data that is unstructured or unlabelled. It imitates the workings of the human brain in processing data and creating patterns for use in decision making. Deep learning is achieving state-of-the-art results across a range of difficult problem domains like self-driving cars, Healthcare, computer vision, Automatic Machine Translation, and Finance, etc.

• The objective of the FDP is to introduce fundamentals of deep learning with real-time applications in various domain
• This FDP will be a very useful platform for faculty and researchers to update their knowledge
• This FDP also focuses on exploring various research opportunities and challenges in the field of Deep learning, and its applications.
• Learn the various aspects of data handling and how information can be extracted from data and build a deep learning based model.

Objectives of the Program
The objective of the FDP is to introduce fundamentals of deep Learning with its applications.
The program would help the participants to understand the key concepts behind deep learning.
Identify the deep learning algorithms which are more appropriate for various types of learning
Comprehensive knowledge of various Neural Network architectures such as Convolutional Neural Network, Recurrent Neural Network, Auto encoders.
This FDP also focuses on exploring various research opportunities and challenges in the field of deep learning its applications.
This FDP will be a very useful platform for faculty and researchers to update their knowledge.

**Topics to be covered**

- Introduction to Deep Learning and Neural Networks
- Multi-layered Neural Networks
- Artificial Neural Networks
- Deep Learning Frameworks and Packages
- Keras API
- TFLearn API for TensorFlow
- DNNs (Deep Neural Networks)
- Deep Neural Net optimization, tuning, interpretability
- CNNs (Convolutional Neural Networks)
- RNNs (Recurrent Neural Networks)
- GPU in Deep Learning
- Autoencoders and Restricted Boltzmann Machine (RBM)

**Resource Persons**

Industry Experts from Eduxlabs, Esoir Business Solution LLP, Gurugram, Haryana, India.

**One-week FDP includes**

One week Training will be taken by one Industrial Expert with the experience of 6-8 years in the industry and has delivered more than 1000 sessions in India and abroad. The training hour is 5-6 hours/each day. Mode of training is Instructor-led live online

- 40 Hours Instructor-led live online Hands-on based learning & Interactive Query Session.
- Soft copy of study material, Training PPT's & Projects code
- Participants will get recorded sessions after completion of training.

**Who Can Participate**

Faculty members of UGC/AICTE recognized Universities and Engineering colleges all over India, Research scholars (PhD only), students and Industry personal, however priority will be given to the faculty members.

**Registration Fee**

- Faculty/ Research Scholar (PhD): Rs. 500/-
- Students: Rs. 500/-,
- Industry and others: Rs. 1000/-

**Registration Process**

1. Registration fee will be paid through online mode, the account details for this purpose is

   **Account Name:** NIT Patna  
   **Account No.:** 50380476798  
   **IFSC Code:** ALLA0212286

2. Link for registration:  
   [https://forms.gle/zJkAGnega2VajhUF7](https://forms.gle/zJkAGnega2VajhUF7)

3. The brochure of the program may be downloaded from the Institute website  
   [www.nitp.ac.in](http://www.nitp.ac.in) and [http://www.nitp.ac.in/iet/](http://www.nitp.ac.in/iet/)

4. **Only Online registration will be accepted and Last date of registration:** 16.06.2020 (till 14.00 PM)

5. Before making the (online) payment, please check the availability of link for Registration and after making the payment, complete the registration process as soon as possible.

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**Facility Development Program**

**on Deep Learning & Its Applications**

**17th to 22nd , June, 2020**

**REGISTRATION FORM**

1. Name (block letter): ...........................................
2. Gender: ...........................................................
3. Caste: ............................................................
4. DOB: ............................................................
5. Designation ......................................................
6. Organization: ...................................................
7. Address for communication: ................................
8. Highest Academic Qualification: ..........................
9. Specialization: ................................................
10. Experience (in years):
    (a) Teaching: ......... (b) Industrial: ............
11. Aadhar No: ...................................................

**DECLARATION**

I do hereby agree to abide by the rules and regulations of the FDP.

Place: ...........................................
Date: ...........................................

PDF file of online filled registration form with proof of registration fee paid will be sent through email to Dr. Mukesh Kumar (email: mukesh.kumar@nitp.ac.in)