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.

Electronics and ICT Academy

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

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 then 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 personals, 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 though 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

3. The brochure of the program may be downloaded from the Institute website www.nitp.ac.in and http://www.nitp.ac.in/ict/

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.

Total -100 seats and the selection will be done on first-cum-first-serve basis. 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)

Faculty 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: …………………………

   …………………………………………………………

   …………………………………………………………

   Pin code: ……………… Ph. No.:…………………

   E-mail: ………………………………………………

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:……………..……..

……………………………….
Signature of the Applicant