



Machine Learning for Computer Vision

21st Feb – 4th Mar 2022

<http://www.mnit.ac.in/eict>



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Preamble (Electronics & ICT Academy)

Government of India had announced a National Policy on Skill Development, which has set a target of skilling 500 million people by 2022 in the domain of Electronics & IT. Under the plan scheme of "Digital India Manpower Development". MeitY has set up seven (07) Electronics and ICT Academies as a unit in 03 IITs, 03 NITs and 01 IIIT with an objective of faculty/mentor development/up gradation in the areas related to Electronics & ICT leading ultimately to improved employability of graduates/diploma holders. MNIT Jaipur has set up such an academy for providing specialized training to faculty and industry persons in the states/UTs of Rajasthan, Gujarat, Daman & Diu, Dadra Nagar Haveli.

(A) Issues-

1. IT Hardware and Electronics Manufacturing industry- availability of properly trained, skilled and qualified manpower
2. Number of quality PhDs generated in IT / Computer Science is very low
3. In E & ICT domain- there is a very high degree of obsolescence of existing technologies and faster emergence of newer technologies

(B) Approach-

1. A focused faculty training/updation programme for IT, Electronics, and related sectors
2. Spreading up and continuous updation regarding Emerging Technology
3. Training and consultancy services for Industry
4. Design, Develop and Deliver specialized modules for specific research areas and Industry
5. Providing advice and support for technical incubation and entrepreneurial activities

The course has been designed to impart programming knowledge and skills required for being an effective researcher/teacher within the domain of **AI and Machine Learning approaches for IoT and VLSI EDA**. The Course is open to faculty, persons from industry, doctoral and other students. This workshop will have specific industry-led sessions which include sessions on mathematical background, data access & generation for IoT, learning, regression, decision trees, deep learning- RNN, CNN, LSTM, Q-learning; programming tools - tinyML, numpy, PyTorch; generative models. The programme will also provide opportunities to connect with experts for research orientation.

Experts/Speakers-

- Prof. Shantanu Chaudhury, Director IIT Jodhpur;
- Dr. Suresh Sundaram, IITG;
- Prof. H. Fujiyoshi, Chubu Univ. Japan;
- Prof. Barbara Zitova, Acad Sci. Czech Republic;
- Dr. Amit Sethi, IITB;
- Prof. Sumantra Dutta Roy, IITD;
- Prof. P. Guha, Prof. Aparajita Ojha, IIITDM Jabalpur,
- Dr. Santosh Viparthy, MNIT Jaipur

Course Contents:

- Introduction to Image Processing and Computer Vision (CV)
- Traditional approaches in Image Processing, Feature Extraction
- Introduction to Artificial Intelligence (AI) and Machine Learning (ML)
- Training Neural Networks, optimization, regularization,
- Introduction to Deep Learning (DL) Basic differences between Conventional ML and DL approaches
- Introduction to Convolutional Neural Network
- CNNs as feature extractors, Image classification using CNN,
- State of the Art Deep CNN Architectures, CNN for Image applications
- Autoencoder for Feature Extraction and Image Enhancement Applications of CNN in agriculture, Medical image analysis and Satellite Imagery
- Recent Trends in ML for CV

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Registration:

Registration is open to graduate, postgraduate and doctoral students, faculty and industry persons. Participants will be admitted on first-come first-served basis.

Details of the programme- http://www.mnit.ac.in/eict/acod_training_prg.php
Register online at portal- <http://online.mnit.ac.in/eict>

Registration Fee:

Academic (student/faculty) India/SAARC: ₹ 500/-
Industry/Others from India/SAARC: ₹ 1000/-
Other countries (student/faculty/Industry persons): \$ 60 /£ 50

(A) Fee once paid will not be refunded back; it may only be adjusted in future courses upon prior request.

(B) The fee covers online participation in the programme, comprehensive tutorials, practice notes & certification charges.

(C) The organizers should receive the fee through online payment gateway provided at the registration portal provided above.

→ For any other query, email us at [academy\[AT\]mnit.ac.in](mailto:academy[AT]mnit.ac.in)