

## Short-Term Course

on

### Deep Learning for Biometrics

Dec 26 - 30, 2020

Sponsored by

**TEQIP – III**

Technical Education Quality Improvement Programme

INDIAN INSTITUTE OF TECHNOLOGY INDORE  
KIT- IITI-TEQIP -III



#### Organized By

Pattern Analysis and Machine Intelligence Lab  
Discipline of Computer Science & Engineering  
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#### Course Coordinator

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#### Overview of the Course:

The main motivation behind the use of biometrics is to provide a convenient mechanism for person authentication with the help of biological or behavioural characteristics and to eliminate the use of much inconvenient ways of authentication such as the ones which are based on ID card, password, physical keys, PINs etc. Recent biometric recognition techniques use deep learning for performing various tasks such as data pre-processing, feature extraction, feature selection, pattern classification, clustering, and so on. Methods and applications of deep learning in biometrics have seen tremendous advances in recent years. This course will provide an excellent opportunity to students, researchers and practitioners to learn deep learning techniques for biometric recognition.

#### Learning Objectives:

- Deep learning is the upcoming field and techniques based on deep learning have shown its applicability in various domains. This course will expose participants to deep learning techniques particularly useful for biometric applications and provide them an excellent opportunity to make themselves well verse with these techniques.
- It will provide participants an opportunity to learn basic as well as advance topics of Deep Learning used in biometrics.
- The course will deal with both theoretical and practical aspects of deep learning techniques for biometrics.

#### Topics to be Covered (Tentative):

- Basics of Biometrics
- Basics of Deep Learning
- Deep Learning for various Biometrics
- Deep Learning for 2D/3D Face Biometrics
- Deep Learning 2D/3D Ear Biometrics
- Deep Learning for Fingerprint Recognition
- Deep Learning for Soft Biometrics
- Deep learning for Biometric Template Protection

#### Intended Participants:

The teachers of the TEQIP funded Engineering Colleges are eligible under this scheme. They can attend this course **without paying any fee**. Faculty members from the streams such as Computer Science, Information Technology and Electrical / Electronics & Communication Engineering and other related streams are encouraged to apply under this program. The seats are limited, which would be filled on a first come first serve basis and the candidate's field of research interest. To check the list of eligible TEQIP colleges check following links:

1. [http://www.npiu.nic.inteqip3subcomponent\\_1\\_1.html](http://www.npiu.nic.inteqip3subcomponent_1_1.html)
2. [http://www.npiu.nic.inteqip3subcomponent\\_1\\_3.html](http://www.npiu.nic.inteqip3subcomponent_1_3.html)

Participants other than teachers of TEQIP approved colleges (students and participants from industry etc.) can also attend the course by paying a fee. For any query, drop an email to [surya@iiti.ac.in](mailto:surya@iiti.ac.in)

#### Course Fee:

- Faculty member from TEQIP funded Institutes: **No fee** (however prior registration is must).
- Faculty members/students from non-TEQIP funded institutes: Rs. 10,000.
- Industry personals and others: Rs. 20,000.
- Participants from outside India: USD 500.

#### Resource Persons :

Dr. Surya Prakash, CSE, IIT Indore  
Dr. Somnath Dey, CSE, IIT Indore  
Dr. Puneet Gupta, CSE, IIT Indore  
Dr. Vivek Kanhangad, EE, IIT Indore  
Dr. Umarani J, IIIT DM Kanchipuram

#### How to Apply:

To apply please [click here](https://forms.gle/7ARfRc4jPGF5XQ3H9). Alternatively, copy the link <https://forms.gle/7ARfRc4jPGF5XQ3H9> and paste it on your browser window to open the registration page.

**Note:** After successful completion of program, a certificate of participation will be given to the participants.