ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)
ON
Artificial Intelligence for Machine Vision and Medical Imaging Applications
(4th December – 14th December 2024)
Organised by
Electronics & ICT Academy, NIT Warangal
In association with
Department of ECE, National Institute of Technology Warangal-506004, Telangana
(Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)

Preamble:

"Electronics & ICT Academy – Phase II" was set up at NIT Warangal with financial assistance from MeitY, GoI. This academy's role is to offer Faculty Development Programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

About the FDP:

This Faculty Development Program (FDP) on Artificial Intelligence (AI) for Machine Vision, Medical Imaging Applications will help educators and researchers learn about AI basics and how it applies to Medical Imaging and technologies with multiple security Applications. Participants will explore machine learning and deep learning concepts, focusing on using AI for medical imaging which aids in diagnostics, health care, agriculture, retail and surveillance systems. AI plays a pivotal role in computer vision by enabling accurate and efficient authentication methods based on facial recognition, iris recognition, fingerprint analysis, and voice recognition. Through hands-on activities and real-world examples, attendees will gain practical skills to use AI effectively with different algorithms in teaching and research. By the end of the program, participants will be ready to integrate AI tools into their work, improving their ability to teach and solve security challenges with modern technology. This will benefit participants by enhancing their expertise and teaching capabilities in these critical areas.

Major Course Contents:

- Introductions to state-of-art implementation for Machine vision applications.
- Machine Learning Basics, Working with data pre-processing and data visualization.
- Supervised and unsupervised learning methods, SVM classification, neural networks and applications.
- Introduction to Deep learning methods, and DL based other Architecturesand its applications.
- Deep learning Architectures for machine/computer vision, biometric and medical imaging implementation.
- Medical image data processing and analysis.
- AI/ML for Biomedical imaging, CT Scan/MRI based image analysis, Fundus and medical images classifications.
- Object Detection/tracking algorithms like Yolo etc., Segmentation Algorithms like UNET etc.
- Human Activity/Action/Biometrics Recognition using Tensor Flow/ PyTorch.
- Basics of Tensor Flow/Keras/PyTorch/Jupyter and Colab.
- Working with data pre-processing and data visualization using python/MATLAB.
- Hands-on session using Python/MATLAB.
- CV and AI algorithms implementation on Hardware platform like Jetson Nano, TX2 and PYNQ etc.

• Faculty conducting this programme:

The programme will be conducted by the faculty members from NIT Warangal; Academicians in the concerned field from IITs/NITs/IIITs are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

Registration Fee Particulars:

Faculty and Research Scholars	Rs.750/-
Industry Participants	Rs.2250/-

Participants need to pay the Registration Fee Online using the following details:-

Online Transfer Details
Account Name: **Electronics & ICT Academy NITW**
Account No: **62423775910**
IFSC: **SBIN0020149**
Bank and Branch: **State Bank of India, NIT (REC) Warangal**

How to apply:

Participants are required to fill the online registration form by clicking on the following link:

https://forms.gle/tjdiKCYTsUfBHQVw7

Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 50 (fifty). Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the DD will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

Important Dates:

Last date (Application & DD)	01.12.2024
Selection List by E- mail	02.12.2024
Duration	04.12.2024 to 14.12.2024

About NIT Warangal:

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years, the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D. programmes in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

Coordinators

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