



## FACULTY DEVELOPMENT PROGRAMME (FDP)

ON

### AWS and Machine Learning

(16<sup>th</sup> –26<sup>th</sup> August 2021)

(Virtual Mode)

Organized by

E & ICT Academy, NIT Warangal

(Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)

in Association With

Andhra Loyola Institute of Engineering and Technology  
Vijayawada-520008, Andhra Pradesh, India.



#### Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy 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:

Artificial intelligence and machine learning are steadily making their way into enterprise applications in areas such as customer support, fraud detection, health care, traffic prediction, Self-driving cars and business intelligence. Cloud computing and its technologies have improved AI very much. Cloud computing has evolved over the years to better serve businesses that leverage this revolutionizing technology. This FDP will cover the following concepts with hands-on sessions.

#### Major Course Contents:

- ML Terminology, Data analysis,
- Logistic regression
- Jupiter Notebook, TensorFlow
- Multi-layer Perceptron, Activation functions
- Deep neural networks, Transfer Learning
- AWS ML services
- Sagemaker Studio, ML examples
- Cloud Computing categories
- Multi-tier architecture Virtualization
- Amazon Elastic Compute Cloud (EC2), IAM
- Storage services: EBS, EFS, S3
- Virtual Private cloud, DNS Route53, Cache services
- AWS use cases
- Containerization and Docker
- AWS IoT services, AWS Machine Learning services
- Introduction to spiking neural networks (SNNs)
- Brain Inspired Computing and ANN vs SNN
- Neurons in Silicon, Spiking neuron models
- Neuron and Synapse computational models
- Liquid State Machine, Learning in SNNs
- Spike Timing Dependent Plasticity learning (STDP)
- Hardware Architecture for SNNs using liquid state machine computational model

#### Faculty conducting this programme:

The programme will be conducted by the faculty member from NIT Warangal. Academicians from IITs are invited to deliver lectures in the programme. Experts from Industries will also be invited to deliver lectures in this workshop.

#### Eligibility:

The program is open to the Faculty of Engineering Colleges and other allied disciplines in India. Industry personnel working in the concerned discipline can also attend.

#### 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.

<b>Online Transfer Details</b>
Account Name: Electronics & ICT Academy NITW
Account No: 62423775910, IFSC: SBIN0020149

Add payment reference as: FDP-AWSML

#### How to apply:

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

<https://forms.gle/9qUw6eEbCYhcoQK56>

#### Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 60 (sixty). 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 for submission of Application	13/08/2021
Selection List by E- mail	15/08/2021
Duration	16/08/2021 to 26/08/2021

#### 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 programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

#### About ALIET:

Andhra Loyola Institute of Engineering and Technology (ALIET) is well known for its academic, placement excellence, and social service, established in the year 2008 at Vijayawada, Andhra Pradesh. An ISO 9001:2015 certified institution. Our Institution is accredited with 'B++' Grade by NAAC. Situated at the foothills of the Eastern Ghats of Vijayawada, the campus of ALIET has a verdant look. This green campus engenders a conducive and serene ambience, giving a fillip to the learners' zeal and enthusiasm. ALIET has an efficient, experienced and dedicated faculty to offer a holistic education to the students. The Andhra Pradesh State Skill Development Corporation (APSSDC) has established a skill development centre in collaboration with Siemens, to train the students. Nearly 3000 students have been trained so far.



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1. Name:

**SPONSORSHIP CERTIFICATE**

2. Designation :

3. Institution :

4. Email :

5. Reference No: Bank: Date:

Amount:

6. Address for Correspondence:

7. Educational Qualification:

8. Subjects taught sofar:

9.No. of refresher courses/workshops attended:

10. Experience (in years):

Teaching: Research: Industry:

11. Do you belong to SC/ST : YES /NO

Dr. /Mr. /Ms. .... is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on “AWS and Machine Learning”, sponsored by Electronics & ICT Academy during 16<sup>th</sup> – 26<sup>th</sup> August 2021 at NIT Warangal.

**Signature of Head of Institution  
(with seal)**

**Declaration**

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the coordinator in case, I am unable to attend the course.

Interested faculty members, please fill the following

Google form:

**<https://forms.gle/9qUw6eEbCYhcoQK56>**

**Coordinators:**

1. Dr. Lakshmi Narayana Thalluri,  
Associate Professor,  
Dept. of ECE,  
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Vijayawada-520008.

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2. Dr. B. Lakshmi,  
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**Signature of the Applicant**