

TOPICS OF DISCUSSION

- 1. Introduction to Python & Colab**
Hands-on exercises to get acquainted with Python
Understanding layers in deep learning
- 2. Image classification using ML techniques**
Introduction to the Fashion MNIST dataset
Implementing Fashion MNIST classification using CNNs
Hands-on exercise: Building a clothing classifier using Python
- 3. Introduction to Color Images and Classification**
Understanding color images in machine learning
Image augmentation and dropout techniques
Implementing image classification with Python and CNNs
- 4. Tricks to Prevent Overfitting and CNNs Summary**
Techniques to prevent overfitting in deep learning models
Transfer learning: Leveraging pre-trained models for new tasks
Summary of Convolutional Neural Networks (CNNs)
- 5. Introduction to Time Series Forecasting and RNNs**
Practical hands-on: Building a time series forecasting model
Forecasting with RNNs
- 6. LSTM Cells and Forecasting with CNNs**
Introduction to Long Short-Term Memory (LSTM) cells
Hands-on: Building a time series forecasting model using LSTM

RESOURCE PERSONS

Professors from
IISc Bengaluru,
VTU Regional Center, Muddenahalli,
Presidency University, Bengaluru.

Industry Experts from
Mew Technologies Pvt. Ltd., Bengaluru

HOW TO APPLY

The applicants should apply at AICTE-ATAL web portal at the earliest
<https://atalacademy.aicte-india.org/signup>
and select Role as Participant

ELIGIBILITY & SELECTION

Faculty members from AICTE approved Engineering Colleges can apply. Selection on "First Come First Serve" basis. Selection will be intimated through mail and selected participants should confirm their participation.

- ✓ No Registration Fee.
- ✓ TA/DA will not be provided.
- ✓ Selected participants should attend program for all 6 days offline at our campus

A P S Educational Trust (Estd. 1935)
N R Colony, Bengaluru

ORGANIZING COMMITTEE

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Hon. President, APSET

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Associate Professor, ISE, APSCE

Organisers

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Assistant Professor, CSE, APSCE

Prof. Kavyashree B
Assistant Professor, ISE, APSCE

Address for Communication

The Co-ordinator

**FDP on Deep Dive into Teaching:
Unleashing Deep Learning for Educators**

Dept. of Information Science & Engineering
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All India Council for Technical Education

ATAL
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Faculty Development Program
on

**"Deep Dive into Teaching: Unleashing
Deep Learning for Educators"**

04-12-2023 to 09-12-2023



Estd. 1997

Department of Information Science & Engineering

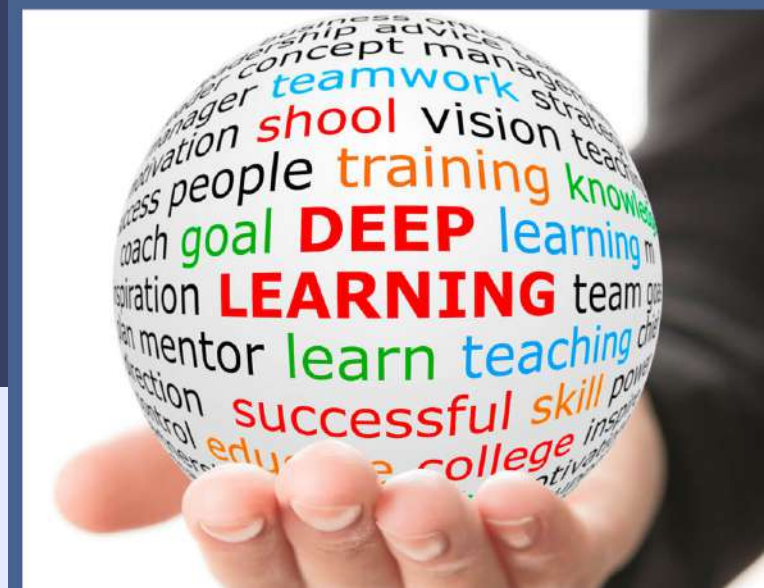
A P S College of Engineering

Anantha Gnanangothri Campus, Somanahalli, Kanakapura Road, Bengaluru - 560082

(Affiliated to VTU & Approved by AICTE)



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members who possess Ph.D. and also pursuing it in advanced areas of Information Sciences like Artificial Intelligence, Natural Language Processing, Cyber Security, Data Science and Image Processing. Our students' initiatives have received funding from numerous reputable organisations, including KSCST, VTU, etc., and have gained attention for resolving a range of social challenges.

ABOUT FDP

Deep learning in image processing refers to the application of artificial neural networks with multiple layers (also known as deep neural networks) to solve complex image-related tasks. These tasks include but are not limited to image recognition, object detection, image segmentation, image generation, style transfer, and image enhancement. Deep learning models, particularly Convolutional Neural Networks (CNNs), have shown remarkable success in handling these tasks.

OBJECTIVES OF THE FDP

The main objectives of this FDP are;

- Learn Python programming specifically tailored with deep learning applications

- Understanding layers in deep learning
- Exploring image classification techniques using basic machine learning approaches
- Ensuring image augmentation and dropout techniques for improved model performance
- Forecasting with Recurrent Neural Networks

WHO CAN PARTICIPATE

The following can apply and participate in the FDP;

- Faculty members from AICTE approved Institutions
- Research Scholars, PG students, Participants from Government, Industry (Bureaucrats/Technicians etc) and staff of host Institution).

GUIDELINES

- A Test will be conducted by the coordinators at the end of the program
- Certificates will be issued to those participants who have attended and scored minimum 60% marks in the test

ABOUT THE COLLEGE

APS Educational Trust which has a glorious history of 88 years of service in the field of education through a chain of schools, pre- university and degree colleges is managed by men of academic eminence and dedicated to welfare of society. APS today stands for quality education in Bengaluru and the college is a step further in carrying it forward. Having hinged on to such reputation, its teaching faculty leaves no stone unturned for achieving excellence. A.P.S. College of Engineering is a private co-educational engineering and management college in Bengaluru, India, affiliated with the VTU founded in 1997 by A.P.S. Educational Trust. With clearly stated goal of delivering top-notch engineering education and a fierce commitment A P S College of Engineering foster an unrivalled excellence in providing technical education. Ever since it was founded, our institution has expanded into a wide collection of outstanding structures, modern, sophisticated laboratories, and internet centre, a cutting-edge library, and an outstanding sports facility each a landmark in its own right spanning across 300 acres. Our students are inspired to be ethically upright and technologically advanced so that they may help build a better country through high-quality education and a sense of camaraderie. The institution is also been accredited by NAAC for a period of 5 years.

ABOUT DEPT. OF INFORMATION SCIENCE & ENGG.

The Information Science & Engineering department has expanded exemplifiably in terms of performance and placement records since it was founded in the year 2000 with an intake of 60 students. Currently, the department is supported by a team of 9 dedicated faculty members. By inspiring students to think futuristically and igniting research and its connected activities through the R&D activities, teachers pro-actively help them grasp the art of computing and empower future technology. Many students from the Department of Information Science & Engineering have left their marks in numerous international and national forums as a result of the department's openly conducted academic activities. The center has eminent faculty mem-

