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SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)
(Sponsored by Sri Vasavi Educational Society)
Approved by AICTE, New Delhi and Permanently Affiliated to JNTUK, Kakinada
Accredited by **NBA** and **NAAC** with **'A' Grade**
Pedatadepalli, **TADEPALLIGUDEM – 534 101**, W.G. Dist, (A.P.)

Department of Electronics and Communication Engineering

Academic Year 2022-2023

Report on Cluster wise Faculty Enablement Program (FEP) on
"SIGNAL & IMAGE PROCESSING"
During 18-10-2022 & 19-10-2022

Objective of the Workshop:

The objective of the program is to enhance the knowledge of faculty and students in the area of signal & image processing, and also to enhance the programming skills in various software tools like MATLAB and Python.

FEP Report:

Day-1 (18-10-2022)
Session 1:
Time: 10:00 am to 11:30 am
Speaker: Sri T.Sreenivasu, Sr. Assistant Professor
Topic: Basics of Digital Image Processing

In this session, the speaker delivered a lecture on digital image processing concepts which includes image representation, image enhancement in spatial domain and frequency domain, image filtering techniques. He also discusses various applications in image processing domain for real time implementation.
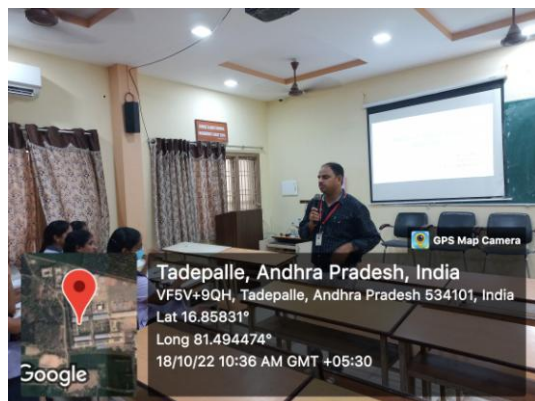

Fig-1: Digital Image Processing Basics by Sri T.Sreenivasu

Session 2:
Time: 11:30 am to 01:00 pm
Speaker: Sri Thota Sreenivas, Associate Professor
Topic: Color Image Processing

In this session, color image processing methods are discussed by the speaker. The topics covered in this session are: color models, full color processing, pseudo color processing, color transformations, smoothing & sharpening operations, noise in color images, color image compression.

Fig-2: Color Image Processing session by Sri Thota Sreenivas

Session 3:
Time: 02:00 pm to 03:15 pm
Speaker: Sri D.R.Sandeep, Sr. Assistant Professor
Topic: Transformation Techniques in Signal Processing

In this session, various transformation techniques are discussed by the speaker which can be applicable for both signals and images. The transformation techniques include Fourier transform, Short-time Fourier transform, Laplace transform, and Z-transform techniques and their implementations.
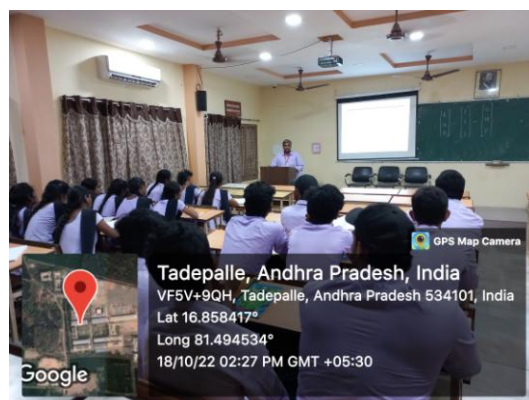

Fig-3: Transformation techniques session by Sri D.R.Sandeep

Session 4:
Time: 03:15 pm to 04:30 pm
Speaker: Sri G.Shankara Bhaskara Rao, Associate Professor
Topic: Design of IIR & FIR Filters

In this session, design procedure for infinite impulse response (IIR) and finite impulse response (FIR) filters was delivered by the speaker. The topics discussed in this session are: Butterworth filter design, Chebyshev filter design, FIR filters with various windowing techniques. He also explained how to develop MATLAB coding for the design of filters.
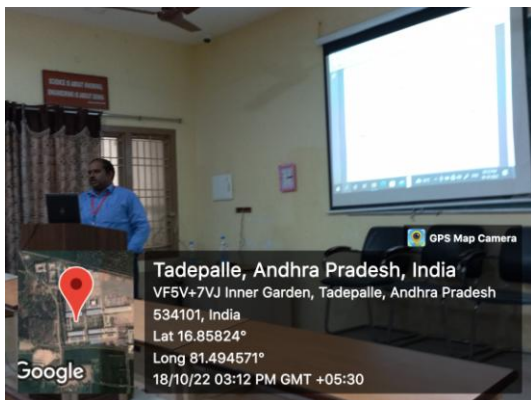

Fig-4: Filter design session by Sri G.S.Bhaskara Rao

Day-2 (19-10-2022)
Session 1:
Time: 10:00 am to 01:00 pm
Speakers:
Sri M.Subba Rao, Sr. Assistant Professor
Sri T.Sreenivasu, Sr. Assistant Professor
Topic: MATLAB Toolbox hands-on session

In this hands-on session, the speakers delivered how to write MATLAB coding for image processing applications such as reading an image, display an image, applying pre-processing techniques like channel separation, enhancement, filtering techniques.
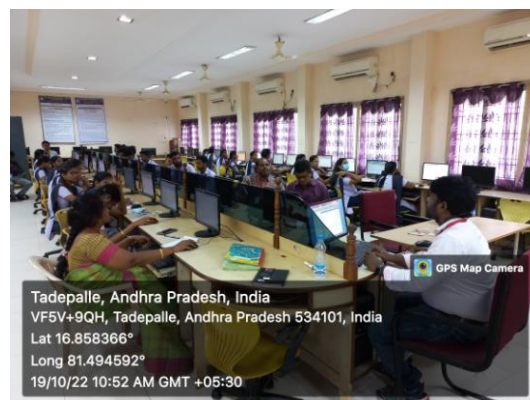

Fig-5: MATLAB Hands-on session

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Session 2:
Time: 02:00 pm to 04:30 pm
Speakers:
Sri P.Sudheer Chakravarthi, Assistant Professor
Sri S.Kamesh, Assistant Professor
Topic: Deep learning algorithms implementation using MATLAB and PYTHON

In this session, implementation of deep learning algorithms using various software was discussed. One speaker discussed how to develop coding for machine learning and deep learning applications using MATLAB. Other speaker discussed Python programming for deep learning applications using Google Colab platform.
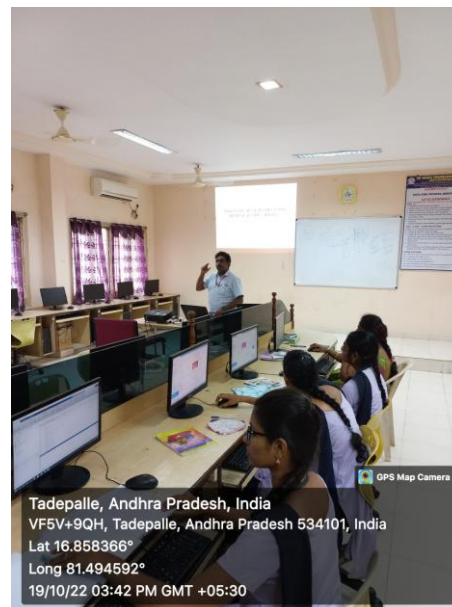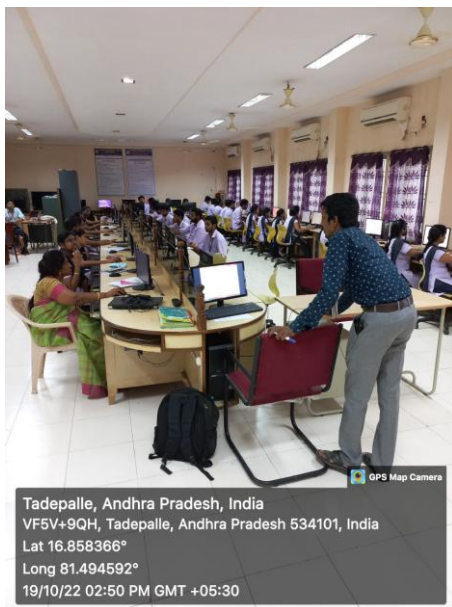

Fig-6: Deep learning algorithms hands-on session

Submitted by:

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