ELIGIBILITY:

- Faculty members of the AICTE approved institutions, Research Scholars, and Industry professional.
- External Participants (traveling more than 20KM one side to attend the FDPs) who attend at least 90% of the sessions shall be reimbursed with the cost of traveling, with an amount of Rs. 2000/-.
- Working lunch will be provided.
- Accommodation will be provided on request (on payment).

REGISTRATION INFORMATION:

- Registration must be through ATAL portal.
- No registration fee.
- Max. No. of Participants: 50 Nos.
- First signup at **https://atalacademy.aicte-india.org/signup**
- After getting login, first fill General details: Any Identity proof (JPEG File) and NOC from present organization (PDF file).
- Select GNITS (December 11th – 16th) and APPLY.

MODE OF DELIVERY: In house (**OFFLINE**).

REQUIREMENTS TO GET CERTIFICATE:

Continuous Comprehensive Assessment of Candidates shall be carried out and e-certificate would be issued up in following aspects mentioned below.

- Attendance– minimum 80% attendance - (individual)- weightage 20%
- One assessment, combination of MCQs/short answer type/reasoning based, etc. - (Individual) - weightage10%
- 2 Page Article Summary/per Team - (Team & Individual)- - weightage30%
- Teaching Practice -(Individual)-weightage15 %
- Report/outcome of Industrial visit- (Team) at the last session –weightage 10%
- Reflective journal - (Individual) - at the last session -weightage15%

ROUTE: The college is well connected by road, train and air. The college is located 13Km from Rajiv Gandhi International Airport, 9Km from Secunderabad Railway Station and 2Km from Jubilee Hills Check Post Metro Station.

CHIEF PATRONS

Shri G. RAGHAVA REDDY, Chairman

Smt. G. SRIVIDYA REDDY, Vice Chairperson

PATRON

Dr. K. RAMESH REDDY, Principal

CHIEF GUEST

Dr. V P S. NAIDU,

Senior Principal Scientist CSIR, Bengaluru

CONVENER

Dr .K. RAGINI, Professor, HOD-ECE, ECE

COORDINATOR

Dr. C. PADMAJA, Assistant Professor, ECE

CO-COORDINATOR

G. KRISHNA KISHORE, Assistant Professor, ECE

RESOURCE PERSONS:

Resource persons from CSIR-Bangalore, Leading industry technocrats from industry and Professors of NIT, JNTUH and other reputed State Universities will deliver lectures and hands-on sessions.

Dr. V.P.S. Naidu, Senior Principal Scientist CSIR, Bengaluru
Prof. U. S. N. Raju, NITW
Dr. T. Satya Savithri, JNTUH
Prof. Mohammad Farukh Hashmi, NITW
Dr. L. Pratap Reddy, JNTUH
Dr. S. Surya Narayana, MVSR, Hyderabad
Dr. C. Padmaja, GNITS, Hyderabad
Dr. K. Anitha Sheela, JNTUH
Dr. P. Hema Sree,, CVR, Hyderabad
Dr. C. N. Sujatha, SNIST, Hyderabad
N. Venkatesh, Senior Director, Silicon Labs, Hyderabad
Dr. N.S. Murthy, Vasavi College of Engg., Hyderabad

IMPORTANT DATES:

Last Date of Registration: **4th December'23**

Announcement of selected candidates: **6th December'23**

SCHEDULE OF THE EVENT:
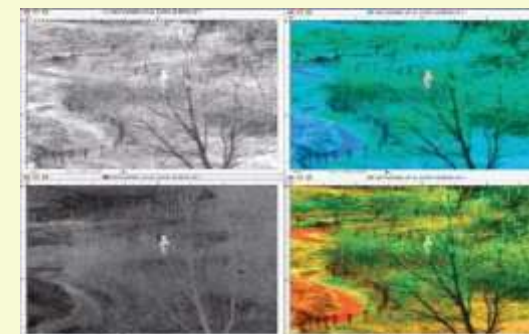
December: 11th-16th, 2023

AICTE TRAINING AND LEARNING (ATAL) ACADEMY

SPONSORED
One Week **OFFLINE** Faculty Development Programme on

"IMAGE FUSION: TECHNIQUES AND APPLICATIONS FOR ENHANCED VISUAL PERCEPTION"

DECEMBER 11th -16th, 2023

Organized by

Department of Electronics and Communication Engineering

G. NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE

Autonomous (For Women)

(Accredited by NBA & NAAC)

Shaikpet, Hyderabad – 500 104

https://www.gnits.ac.in//

ABOUT THE COLLEGE

G.Narayanamma Institute of Technology & Science (GNITS), a leading Engineering college in Hyderabad for women. The institute is offering 8 B.Tech programmes in CSE, AI&ML, DS, EEE, ECE, CST, IT and ETM & 5 M.Tech Programmes in DECE, CSE, CNIS, PE & ED, WMC. GNITS have established 5 collaborative Centers for Research through JNTUH to offer Research Programmes, leading to Ph.D. The Institute has 220 faculty members and a sanctioned yearly intake of 900 students. The college has well-qualified and dedicated faculty with 68 doctorates. They have been published 48 patents and around 1350 Journal papers. GNITS was conferred Autonomy in the year 2018 by UGC, New Delhi for a period of 10 years. GNITS has established a quality culture in teaching learning and administrative processes through sustenance measures, NBA Accreditation, and NAAC Accreditation. The college has R&D projects worth 120 Lakhs from DST, SERB, and AICTE.

ABOUT THE DEPARTMENT

The department of ECE was started in the year 1997 with an intake of 60 students. The intake was increased to 180 students. The department has remarkable milestones and recognition in recent years. ECE Department is recognized as Research Centre by JNTUH and established Centre of Excellence in IoT and Antenna. The department have been accredited by the NBA for three years, demonstrating the quality and excellence of our academic offerings. The NAAC accreditation from 2019 to 2023 is a further indication of our dedication to providing a conducive learning environment. Our department's highly qualified and devoted faculty and fully equipped with measuring equipment labs. The Alumnae are well-placed in reputed organizations like ADP, LVL7, Value labs, Micron, Deloitte, NCR, Accenture FSE, Quantum Analytics, Ford, Optum, Colruyt, Virtusa, and many more.

ATAL ACADEMY

AICTE Training and Learning (ATAL) Programme is an initiative by AICTE which aims at empowering faculty to achieve goals of Higher Education such as access, equity and quality. This programme is designed to fulfil the need to train the young generation in skill sector and having faculty & technicians to be trained in their respective disciplines. It was felt that Training with latest tools and technologies is vital to keeping an institute competitive and more productive. Training is required for increasing the knowledge and skills of students to make them more employable to acquire global competencies. It also transforms them to harmonize with society and most importantly to make them a good citizen of the country.

ABOUT THE FDP

Image fusion techniques are evolving rapidly due to advancements in technology and artificial intelligence. Image fusion can provide several benefits for different applications, such as remote sensing, medical imaging, virtual objects visualization and security.

In medical imaging, image fusion can improve the diagnosis and treatment of diseases by combining images from different modalities, such as X-ray, MRI, CT, PET, or ultrasound. It can also provide a more comprehensive and accurate view of the anatomy and physiology of the human body.

Lastly, for security purposes, image fusion can enhance the detection and recognition of targets by combining images from different sources. It can also improve the quality and clarity of images captured in low-light conditions to facilitate the identification of faces or fingerprints.

Also provide a solid foundation in image fusion concepts, including different fusion levels (pixel, feature, and decision) techniques, and their applicability. The program emphasizes real-world applications of image fusion, enabling educators to bridge the gap between theoretical concepts and practical use cases.

OUTCOME OF FDP

❖ Participants will develop a clear understanding of different image fusion techniques, including pixel-level, feature-level, and decision-level fusion.

❖ Participants will gain insights into the diverse applications of image fusion across domains such as remote sensing, medical imaging, surveillance, and more.

❖ Through practical workshops, participants will gain hands-on experience in implementing image fusion algorithms using MATLAB and Python software tools.

TOPICS TO BE COVERED

1. Fundamentals of Image Fusion and Preprocessing Techniques.
2. Image Enhancement and Transformation
3. Multi-Sensor Image Acquisition and Preprocessing
4. Intensity-Based Fusion
5. Wavelet Transform for Image Fusion
6. Image Fusion: Challenges and Opportunities
7. Advanced Wavelet-Based Techniques
8. Introduction to Feature Extraction
9. Principal Component Analysis (PCA) for Fusion
10. Hands on session using MATLAB and PYTHON
11. Independent Component Analysis (ICA) for Fusion
12. Decision-Level Fusion and Deep Learning for Image Fusion
13. Application of Image Fusion in Surveillance
14. Case Studies in Image Fusion
15. Ethics, Values, Health and Happiness

Contact Details
Dr. C. Padmaja (Coordinator)
Mobile: 9502407938, 9849878648
Email: c.padmaja@gnits.ac.in

FACULTY DEVELOPMENT PROGRAMME on
IMAGE FUSION: TECHNIQUES AND APPLICATIONS FOR ENHANCED VISUAL PERCEPTION
(11th – 16th December, 2023)
Organized by Department of Electronics and Communication Engineering
G. NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE
(Autonomous) (For Women)
in association with AICTE Training & Learning Academy
6- Day FDP (December 11th – 16th) in OFFLINE mode from 9:30 AM TO 4:30 PM

Date & Time	9:00- 9:30 AM	9:30-11:30AM	11:30 AM-1:30PM		2:30-4:30 PM		
11-12-2023 (Monday)	**Inaugural Function** **Chief Guest** **Dr. V.P.S. Naidu** Senior Principal Scientist CSIR, NAL-Bangalore	**Fundamentals of Image Fusion and Preprocessing Techniques by** **Dr. V.P.S. Naidu** Senior Principal Scientist CSIR, NAL- Bangalore	**Image Enhancement and Transformation – Hands on Session on Big Image Data Processing by** **Prof. U. S. N. Raju** Associate Professor, CSE, NIT Warangal	**L**	**Multi-Sensor Image Acquisition and Preprocessing using Python By** **Prof. U. S. N. Raju** Associate Professor, CSE, NIT Warangal		
12-12-2023 (Tuesday)	**9:30-11:30AM** **Wavelet Transforms & Application in Image Fusion By** **Dr. T Satya Savithri** Professor, ECE, JNTUH, Hyderabad		**11:30 AM-1:30PM** **Deep learning for Medical Imaging analysis and Applications BY** **Prof. Mohammad Farukh Hashmi** Assistant Professor ECE, NIT Warangal	**U** **N** **C**	**2:30-4:30 PM** **Image Classification using Deep learning: A practical perspective using python BY** **Prof. Mohammad Farukh Hashmi** Assistant Professor ECE, NIT Warangal		
13-12-2023 (Wednesday)	**Reflection Journal** **Article 1&2 Discussion**		**AI Enabled Creative Art using Image Fusion by** **Dr. L. Pratap Reddy** Professor, ECE, JNTUH, Hyderabad	**H** **B** **R**	**Travel visit** **Smart City Research Centre** **IIITH, Hyderabad**		
14-12-2023 (Thursday)	**Introduction to Feature Extraction By** **Dr. S. Suryanarayana** Professor & HOD, ECE, MVSR Engg College, Hyderabad		**Decision-Level Fusion and Deep Learning for Image Fusion By** **Dr. K. Anitha Sheela** Professor, ECE, JNTUH, Hyderabad	**E** **A**	**Application of Image Fusion in Surveillance by** **Dr. C. Padmaja** Assistant Professor, ECE, GNITS		
15-12-2023 (Friday)	**Principal Component Analysis (PCA) for Fusion by** **Dr. P. Hema Sree** Associate Professor, CVR College of Engineering, Hyderabad		**Next Gen Camera and Imaging Systems by** **N. Venkatesh** Senior Director, Silicon Labs Hyderabad	**K**	**Intensity- Based Image Fusion & Hands on session using MATLAB/Python by** **Dr. P. Hema Sree** Associate Professor, CVR College of Engineering, Hyderabad		
16-12-2023 (Saturday)	**9:30-11:30AM** **Case Studies in Image Fusion by** **Dr. C. N. Sujatha** Professor, ECE Department, SNIST, Hyderabad		**11:30AM-1:30PM** **Ethics, Values, Health & Happiness by** **Dr. N.S. Murthy**, Professor, Vasavi College of Engg., Hyderabad.		**2:30-3:00PM** **Visit Report (Team)**	**3:00-4:00PM** **Feedback & Online Examination for Participants**	**4:00-4:30PM** **Valedictory Function**

G. NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (Autonomous) (For Women)

in association with AICTE Training & Learning Academy
6- Day FDP (December 11th – 16th) in OFFLINE mode from 9:30 AM TO 4:30 PM
Organized by Department of Electronics and Communication Engineering

REPORT

AICTE- ATAL Faculty Development Program on, "Image Fusion: Techniques and Applications for Enhanced Visual Perception"

Date of Program: 11-12-2023 to 16-12-2023

Sponsored by: AICTE-ATAL FDP

Number of Participants: 57

About Resource Person: The success of any program lies in the quality of speakers it attracts, and we are proud to announce that our FDP boasts eminent speakers from CSIR-Bangalore, leading industry technocrats, and professors from esteemed institutions such as NIT Warangal, JNTU Hyderabad, and other reputed state universities. The event comprising 12 technical lectures and 1 Industrial Visit to Smart City Research Center, IIIT Hyderabad, covering entire gamete of the "Image Fusion: Techniques and Applications for Enhanced Visual Perception".

About the Program:
The event is sponsored by AICTE's ATAL ACADEMY, Govt. of India. It is scheduled from December 11th – 16th 2023 in OFFLINE mode. The Chief Guest and Keynote address for the inaugural function is Dr. V.P.S. Naidu, **Senior Principal Scientist, CSIR, NAL Bangalore.** Sir gave a brief report on, **"Fundamentals of Image Fusion and Preprocessing Techniques"** and gave insights into the core principles of image fusion and essential preprocessing methods, setting the foundation for an in-depth exploration of the subject.
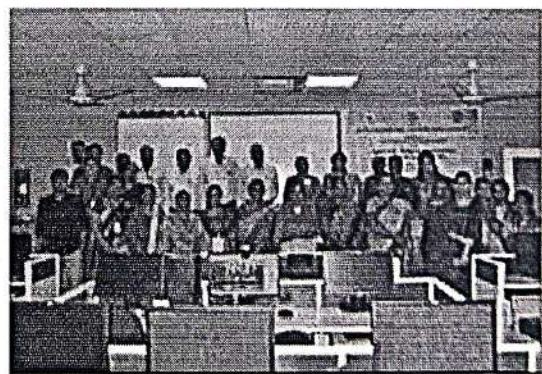
Talk Link: https://www.youtube.com/@CPadmaja
Outcomes: The basic knowledge gained by this FDP will definitely help faculty from various institutes to pursue their research.

Inaugural Photo on December 11th 2023   Valedictory Photo on December 16th 2023

Overall Feedback: The feedback of the participants was very positive (75% excellent and 25% very good) and motivational for the organizers. The participants felt very happy for conducting the FDP on latest trends. They said that, this program was very useful and helpful for them in their research work and guiding the projects to the students. All the participants appreciated the Coordinator for arranging such an eminent speaker's panel throughout the FDP. I got huge response for registration as well as lots of compliment of arranging the workshop, content and hands on.

Coordinator: Dr. C. Padmaja, Asst.Prof., ECE

Co-Coordinator: Mr. G. Krishna Kishore, Asst. Prof., ECE

HOD: Dr. K. Ragini, Professor, HOD-ECE