

Department of Electronics & Communication Engineering

DATE: 16.09.2025

Submitted,

Sub: WORKSHOP REPORT ON "SATELLITE IMAGE PROCESSING USING PYTHON"- reg

With reference to the above subject, We Dept. of Electronics & Communication Engineering, Sri Sairam College of Engineering, Anekal, Bengaluru organized a Workshop on "Satellite Image Processing using Python" on 16th September 2025.



Department of Electronics & Communication Engineering
In Association with IEEE Communication Society
Organizing Workshop on

Satellite Image Processing using Python

Date: 16th September, 2025
Time: 10:00 am

Resource Person



Dr. Keerti Kulkarni
 Associate Professor, ECE, BNMIT,
 Faculty Advisor, IEEE GRSS BNMIT- 5BC14831F



Mrs. Savitha H S
Coordinators

Dr. A. Poonguzhali
HOD, ECE

Dr. B. Shadaksharappa
Principal

Dr. Sai Prakash LeoMuthu
Chairman & CEO
Sairam Institutions



The Workshop was started at 10 AM in AV Hall.. Dr. A. Poonguzhali, HOD, Dept. of ECE, delivered welcome address and introduced the Resource Person Dr. Keeerti Kulkarni, Associate Professor, BNMIT, ECE ,Bangalore

Resource person **Dr.Keerthi Kulkarni** has delivered a presentation on satellite image processing using python. Explained about satellite image processing.

- Preprocessing – Involves noise removal, atmospheric correction, and geometric adjustments to make raw satellite data suitable for analysis.
- Image Enhancement – Techniques like contrast stretching, filtering, and edge detection are used to highlight specific features in the imagery.
- Feature Extraction – Identifying important features such as vegetation, water bodies, urban areas, or roads from satellite images.
- Classification and Analysis – Machine learning and deep learning methods are applied to categorize land cover, monitor changes, and detect objects.
- Applications – Widely used in agriculture (crop monitoring), environment (deforestation and pollution tracking), urban planning, weather forecasting, and disaster management.

Also explained satellite image processing using python

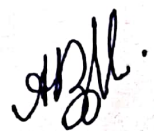
- Python libraries like Rasterio, GDAL, and Geopandas are used to read, handle, and process satellite imagery efficiently.
- NumPy and OpenCV help in preprocessing tasks such as noise removal, filtering, contrast adjustment, and image enhancement.
- Feature extraction and index calculations (e.g., NDVI for vegetation, NDWI for water) are easily implemented using Python.
- Machine learning frameworks such as TensorFlow and scikit-learn enable land cover classification, object detection, and change detection.
- Python supports visualization and mapping using Matplotlib, Folium, and integration with Google Earth Engine for large-scale satellite data analysis.

The participants 4th year A and B section students interacted with resource person shared their views and got their doubts clarified.

Prof. Savitha H S delivered vote of thanks. The workshop also supporting "Sustaintainable Development Goals'-Goal 4 Quality Education.


Program Coordinator


17/10/2025


HOD





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COLLEGE OF ENGINEERING
Anekal, Bengaluru

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