7-Days Workshop (Self-Financed) on

"**Satellite Image Analysis for Contemporary Applications: Hands on with ENVI and Matlab**"

22nd – 28th April 2019

Venue: Advanced Image and Data Science Lab. (Room No. 5423, CC-III),

Department of Information Technology, IIIT Allahabad (U.P) 211015

Introduction

Satellite Image Processing is a prominent field of research and development which has become a keen interest of researchers in past few decades. There are various applications where satellite imaging is the only tool to produce the effective results, e.g., mapping of land cover, deforestation maps, growth of urban area, flood mapping etc. since a large geographical area can be monitored with the help of satellite imaging. India has a vast history of satellite missions which were successfully operated in past and continued with more number of satellites every year. This shows the strength of our country in satellite missions and thus satellite imaging system which is as rich as of any other country. Accordingly, a variety of satellite data is now available in the country for the research purpose. The digital image processing and analysis techniques applied to the satellite images produce very useful information which can be utilized for various land cover applications. The proposed program is for the beginners to learn the basics of satellite image processing and analysis tools in an effective way by providing the exposure to various image analysis tools and to discuss contemporary problems for future research.

Objectives

- To provide an exposure of satellite image processing and analysis to naïve users
- To teach the satellite imaging tools to beginners
- To provide a hands on experience of satellite image processing and analysis tools
- To discuss research ideas and topics in satellite image processing applications

Methodology

The program will be conducted in form of lectures followed by hands-on. Each session will have a dedicated section for discussion. One dedicated session will be for discussion of the problems raised by the research scholars followed by proposed solution by the experts.

Target Audience

Research scholars, Research associates, Teaching associates and UG/PG students of Engineering/IT Institutions and Universities.

Registration Fee (GST Included)

Rs. 3500/-

Registration fee includes **Tea and Lunch** arrangements.

The registration is now open. Kindly register at https://apply.iiita.ac.in/event/register/

Accommodation

Accommodation will be available in the Guest House on individual and/or sharing basis. Charges for food and lodge will be applicable as per the Guest House rules.

Topics to be covered

1. Introductory Remote Sensing
   a. Remote Sensing of Earth Surface
   b. Land Use and Land Cover Classes
   c. Ground Data Collection and Sampling
2. Types of Satellite Imagery
   a. Electromagnetic Spectrum for Imaging
   b. Optical Imaging
   c. Infrared Imaging
   d. Microwave Imaging
3. Elements of Digital Image Processing
   a. Digital Image Basics
   b. Image Enhancement Techniques
   c. Multiband Image Processing
   d. Feature Detection and Extraction
4. Satellite Image Analysis: ENVI and Matlab Tools
   a. Basics of ENVI: Image Enhancement Tools
   b. Matlab Basics for Image Enhancement
5. Image Classification Techniques
   a. Supervised Classification
   b. Unsupervised Classification
   c. Hybrid approaches
6. Change Analysis Techniques
   a. Detection of Change in multi-temporal images
   b. Change Detection Algorithms
7. Contemporary Applications of Satellite Image Analysis
   a. Urban Grown Analysis
   b. Mapping of Agricultural Area
   c. GIS Based Applications

Expected Participants

Max. 20 participants will be allowed to register for the workshop**.**

Coordinator & Contact Person

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