iirs

Indian Institute of Remote Sensing

Dehradun

Placement Brochure 2020

- M.Tech.
- M.Sc.
- PGD

Vision

"Achieve excellence and remain in the forefront for capacity building in Remote Sensing & Geoinformatics and their applications"

Mission

"Transfer technology through capacity building and research in the field of Remote Sensing and Geoinformatics for sustainable development"

DIRECTOR'S DESK

Indian Institute of Remote Sensing (IIRS) under Indian Space Research Organisation (ISRO), Department of Space, Govt. of India is a premier training and educational institute established in 1966 and committed to prepare Professionals in the field of Remote Sensing, Geoinformatics and GPS Technology for Natural Resources, Environment and Disaster Management. The Institute is also host for Centre for Space Science & Technology Education in Asia and the Pacific (affiliated to the United Nations) and conducts International Training Programmes.

The training and education programmes conducted by the Institute include: i) M.Tech. (RS & GIS) in eight disciplines conducted in collaboration with Andhra University, Visakhapatnam, ii) M.Sc. and PG Diploma courses in Geoinformatics conducted in collaboration with the Faculty of Geo-information Science & Earth Observation (ITC) of the University of Twente (UT), The Netherlands and iii) Post-graduate Diploma (PGD) in Remote Sensing and GIS in eight disciplines. The institute also conducts various other courses, namely i) Certificate programmes (including NNRMS-ISRO sponsored programme for University faculty), ii) Awareness programmes, and iii) Special on-demand/tailor-made courses. The Institute has so far trained 12,442 professionals including 1239 from abroad representing 97 countries from Asia, Africa and South America.

Under the Outreach Programmes, the Institute conducts several courses for working professionals, researchers and students through state-of-the-art studio and e-learning concept. Currently, 880 Institutes/Organizations spread across India are networked with IIRS. More than 1,19,260 participants have benefitted so far from IIRS Outreach Programmes.

The Placement Brochure of 2020 includes the skills acquired by IIRS students through training/education and project work that they have carried out as a part of their Course Curricula. I am sure that the Placement Brochure shall be helpful to the Geospatial Industries, Academia and other Institutions to pick the talent and also provide opportunities to the course participants for their placement.

I wish a splendid future for our students.

Dr. Prakash Chauhan
Director, IIRS

Contents

PROFILE OF THE INSTITUTE

The Indian Institute of Remote Sensing (IIRS) - is a constituent unit of Indian Space Research Organisation (ISRO), Department of Space, Govt. of India. Since its establishment in 1966, IIRS is a key player for training and capacity building in geospatial technologies and its applications through training, education and research in Southeast Asia. The training, education and capacity building programmes of the Institute are designed to meet the requirements of Professionals at working levels, fresh graduates, researchers, academia, and decision makers. IIRS is also one of the most sought after Institute for conducting specially designed courses for the officers from Central and State Government Ministries and stakeholder departments for the effective utilization of Earth Observation (EO) data. About 40 courses are conducted every year and 12,427 professionals and students have been trained/educated so far. About 50 researchers who have worked under IIRS faculty have received PhD degrees till date from various Universities.

To widen its outreach, IIRS has started live and interactive Distance Learning Programme (DLP) since 2007. As on date, 1041 Institutes/ Organizations are networked with IIRS and more than 1,19,260 participants have attended various basic and advanced courses conducted by the Institute. IIRS has also launched e-learning course on Remote Sensing and Geo-information Science since August, 2014.

The Institute has a strong, multi-disciplinary and solution-oriented research agenda that focuses on developing improved methods/ techniques for processing, visualization and dissemination of EO data & Geo-information for various societal applications and better understanding of Earth's system processes. Microwave, hyperspectral and high-resolution EO data processing and their applications is the main research focus, currently. State-of-the-art laboratory and field-based instrumentation and observatories network help meeting the research goals and objectives.

IIRS hosts headquarters of Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), affiliated to the United Nations and provides support in conducting the Remote Sensing and GIS training and education programmes. IIRS also plays a key role in the activities of Indian Society of Remote Sensing (ISRS), which is one of the largest non-governmental Scientific Societies in the country.

TRAINING, EDUCATION & CAPACITY BUILDING PROGRAMMES

The training and capacity building programmes of the Institute are designed to meet the requirements of various target/user groups, i.e., for professionals at working, middle and supervisory levels, fresh graduates, researchers, academia and decision makers. The duration of courses ranges from one-week to two-years. The programmes are meticulously designed by the domain experts, and are then approved by the Board of Studies (BoS) and Academic Council (AC) consisting of eminent subject experts. A team of sixty-four dedicated scientists at IIRS contribute in delivering the course contents. Guest faculties from reputed organizations/ institutes in the country and abroad are regularly invited to share their knowledge and experience with the course participants. The training and education programmes conducted by the Institute include:

1. M.Tech. (RS & GIS) in eight disciplines conducted in collaboration with Andhra University, Visakhapatnam,
2. M.Sc. and PG Diploma (PGD) in Geoinformatics conducted in collaboration with the Faculty of Geo-information Science & Earth Observation (ITC) of the University of Twente (UT), The Netherlands.

   and

3. Post-graduate Diploma (PGD) in Remote Sensing and GIS in eight disciplines.

The institute also conducts various other courses, namely i) Certificate programmes (including NNRMS-ISRO sponsored programme for University faculty), ii) Awareness programmes, and iii) Special on-demand/tailor-made courses. The Institute has so far trained 12,442 professionals including 1239 from abroad representing 97 countries from the Asia, Africa and South America.

Under the Outreach Programmes, the Institute conducts several courses for working professionals, researchers and students through state-of-the-art studio and e-learning concept. Currently, 550 institutions and organizations spread across India are networked with IIRS. More than 1,19,260 participant have benefitted so far from IIRS Outreach Programmes.

The Institute also provides opportunities to external students to pursue their research under the guidance of IIRS faculty. IIRS is a recognized centre for carrying out research leading to PhD by Andhra University, Forest Research Institute (Deemed University), University of Pune, Doon University, Kumaon University, Uttarakhand Technical University and IIT, Roorkee. About 50 researchers who have worked under IIRS faculty have received PhD degrees till date from different universities. External Post-graduate/ Graduate students are also given opportunity to conduct their project work under the guidance of IIRS faculty.

IIRS - GROUPS AND DEPARTMENTS

Programme Planning and Evaluation Group

The Programme Planning and Evaluation Group (PPEG) coordinates the training, education and capacity building, human resources development, budget, hostel, library, HRD student affairs placement, etc. activities of the institute. It also coordinates the inter-centre activities and liaison with other institutions in the country and abroad. PPEG also maintains the IIRS alumni database. It is also responsible for initiating and coordinating several other techno-managerial activities of the Institute.

Budget Planning and Monitoring Department

With the increasing responsibilities and mandates of the institute it is pertinent to mention that the budgetary allocations have increased to more than three times in past four financial years. This has spearheaded gamut of techonmanagerial and financial activities and other critical correspondences with Hqs. BPMD is one of the youngest department created in IIRS to take care of pertinent budget planning and monitoring related formalities and procedures in the Institute.

Central Library

The Library is dedicated to serve the information needs of the scientists, researchers and students of the Institute. Few highlights of IIRS Library are (i) Remote access to library e-resources (ii) Strengthening information resources (iii) Journal TOC (iv) Collection development (v) Inter Library loan / delivery with local/DOS libraries (vi) User education/orientation.

IIRS - GROUPS AND DEPARTMENTS

Agriculture & Soils Department

The Agriculture and Soils Department (ASD) is one of the oldest departments of the institute. ASD has carried out many R&D and consultancy projects in soil surveys, watershed prioritisation, land evaluation, agricultural resources inventory, agro-meteorology, soil moisture, etc. Some of the research projects (ongoing/ completed) at ASD are process based modeling for soil erosion, soil carbon sequestration, carbon accounting modeling by integrating flux observation, drought monitoring, etc. The department is equipped with a variety of portable ground-truth equipment for quantitative measurements of bio-physical and physico-chemical properties of soils and crops, and a Soil Analysis Laboratory for the physico-chemical analysis of soils.

Forestry & Ecology Department

The Forestry and Ecology Department (FED) was established in 1966 with the aim of providing training and skills development on the utility of aero-space remote sensing for forest resource inventory, monitoring and management. Nationwide forest cover mapping and nationwide biome level characterization of Indian forests biodiversity at landscape level are the major projects planned and executed by the department. A few other important research projects carried out by the department are growing stock and biomass assessment, ecosystem dynamics, wildlife habitat modelling, ecological and wildlife corridor modelling and connectivity analysis, national level carbon flux measurement and modelling, grassland mapping and carrying capacity estimation, etc.

Marine & Atmospheric Sciences Department

The Marine & Atmospheric Sciences Department (MASD) was formed in year 1986 and offers training & education courses and provides research opportunities in the areas of coastal processes, marine resources, ocean and atmospheric sciences applications. The department has contributed in different research and operational projects of ISRO/DOS, such as National Action Plan for Climate Change Project (NAPCCP), Land Degradation Mapping on 1:50,000 scale, Oceansat-II data utilization project, National Carbon Project (NCP), SARAL-AltiKa project, etc. Some of the research projects (ongoing/ completed) at MASD are atmospheric pollution modeling, extreme events forecasting, coastal hazards and their mitigation, ocean color and primary productivity, upper-ocean geophysical parameter retrieval, aerosol optical depth, etc.

IIRS - GROUPS AND DEPARTMENTS

Urban & Regional Studies Department

To meet the growing demand and challenges of urban areas and towards regional development, the Urban and Regional Studies Department (URSD) was established in 1983 in collaboration with ITC, the Netherlands. The department is working in close coordination with Town and County Planning Departments/ Urban Local Bodies with the aim to spread the benefits of remote sensing technology at grassroots level. It has developed expertise in the field of urban sprawl and growth modeling, urban environment analysis and regional analysis. Some of the research projects (ongoing/ completed) at URSD are urban micro-climate zonation for sustainable Smart City planning, modeling of urban air pollution, urban material detection using hyperspectral RS data, urban flooding modeling, solar energy potential assessment, etc. The department regularly conducts special courses for town and country planning officials from state and central government departments.

Water Resource Department

Water Resources Department (WRD) was established in the year 1986 and since then it has emerged as leader in capacity building and research in various fields of hydrology and water resources management. The department specializes in remote sensing based hydrologic parameter retrieval and modelling; data assimilation; watershed characterization and conservation planning; snow and glacier melt runoff modelling; irrigation water management; flood mapping, monitoring and modelling; drought assessment; soil erosion and sediment yield modelling; reservoir sedimentation; surface and ground water studies;climate change impact assessment; and hydro-environmental impact assessment and site suitability analysis of water resources projects. The department has initiated advanced research in the field of flood early warning system; polar remote sensing; microwave and hyperspectral remote sensing applications. The department is well equipped with latest field and portable equipment. It regularly conducts special courses for officials of state and central water resources department.

IIRS - GROUPS AND DEPARTMENTS

Geospatial Technologies and Outreach Programme Group

The Geospatial Technologies and Outreach Programme (GTOP) Group comprises of three departments namely, Photogrammetry and Remote Sensing, Geoinformatics, and Geoweb Services, IT and Distance Learning Department.

Photogrammetry & Remote Sensing Department

Photogrammetry and Remote Sensing Department (PRSD) established in 1966 is imparting professional training in the field of photogrammetry, cartography, remote sensing and image processing. It has successfully executed a number of studies/projects on large-scale surveys and preparation of photo-maps in different parts of the country, generation of national/global level database on land use/land-cover, augmentation of forest cover information in India and Myanmar, generation of land surface parameters for monsoon variability studies using Regional Climate Model, etc. Recent research projects at PRSD are UAV data processing for terrain information extraction, LiDAR-RS, SAR Tomography, SAR calibration, hyperspectral remote sensing, automated features extraction, Large scale mapping, etc.

Geoinformatics Department

This department was set-up in 1996 in collaboration with University of Twente, Faculty of Geo-information Science & Earth Observation (ITC), The Netherlands, for offering courses in the field of Geoinformation Science. The M.Sc. course in Geoinformation Science and Earth Observation (specialisation in Geoinformatics) is one of its major programme offered since 2002 as part of Joint Education Programme of IIRS and ITC, The Netherlands. Post-graduate Diploma course in Geoinformatics (as a Joint Education Programme of IIRS and ITC) is also offered by this department. GID conducts training, education and research in the field of GIS, DBMS, spatial analysis and modelling, Transportation GIS, 3D GIS, Spatial Data Mining, Health GIS and development of software tools using FOSS.

Geoweb Services, IT & Distance Learning

Geoweb Services, IT and Distance Learning (GIT&DL) Department is recently formed Department at IIRS to meet the increasing demand of capacity building, information dissemination and research in these areas. GIT&DL department is involved in capacity building & R&D activities in Web-GIS, Mobile GIS, Location Based Services (LBS), Cloud GIS, etc. It is also carrying out capacity building in Geospatial technologies through Distance Learning mode (Live & interactive and e-learning), R&D activities on active learning, Digital contents creation, R&D activities on 2D and 3D simulations and virtualization,etc. It is also carrying out the IT Infrastructure development, set-up and operations for the Institute.

IIRS - GROUPS AND DEPARTMENTS

Geosciences and Disaster Management Studies Group

The Geosciences and Disaster Management Studies Group (GDMSG) consist of two department namely, (i) Geosciences Department and (ii) Disaster Management Studies Department.

Geosciences Department

Geosciences and Disaster Management Studies Group (GDMS), formerly known as Geosciences Department, was established in 1966 to provide professional training to technical staff of organisations dealing with earth sciences applications such as mineral and oil exploration, engineering geological survey, ground water exploration, etc. It has successfully executed a number of projects which include Geodynamics and Cryosphere Studies in the Himalaya, Planetary Geology, Landslide modelling, Seismic Hazard Assessment, Active Fault mapping, Liquefaction modelling, Differential Interferometry SAR (DInSAR) based land surface displacement modelling, and coal mine fire and subsidence modelling. Present focus is on Earth System Sciences studies using EO and geophysical investigations.

Disaster Management Sciences Department

The Disaster Management Studies Department (DMSD) is dedicated towards capacity building and research in assessment, monitoring and modelling of natural and anthropogenic disasters with prime focus on prevention and mitigation measures leading to disaster risk reduction. Besides other courses of the Institute, the DMS also conducts PG Diploma in RS and GIS applications in Natural Hazards and Disaster Management Studies with specialisation in Hydro-meteorology (flood, drought and coastal) and Geological hazards (earthquake, landslide, mining related hazards, glacial lake outburst flood-GLOF, etc. Disaster Management supports activities at IIRS are carried out by several departments and significant activities include Landslide modelling, Seismic Hazard Assessment, Forest Fire Risk Assessment, Flood modelling, extreme weather prediction and atmospheric pollution studies. Present focus is on development of EWS and early detection techniques for various natural hazards using EO and ground based observations.

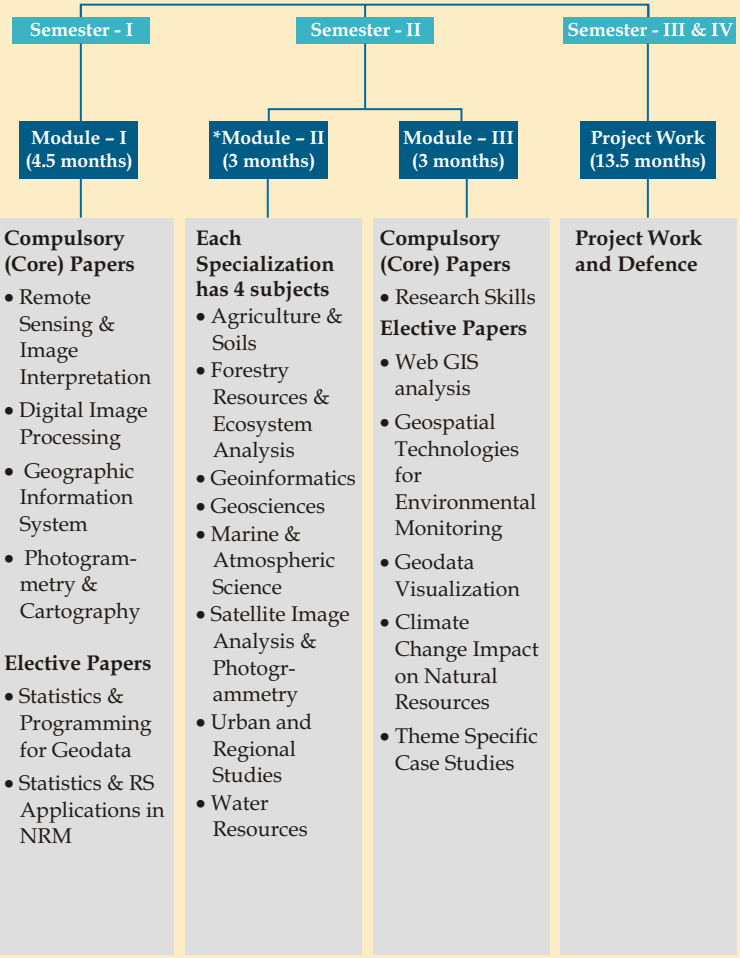
M.Tech. (RS&GIS)

The aim of the M.Tech. (RS&GIS) course is to provide in-depth understanding of remote sensing, satellite image analysis, Geographic Information System (GIS) and Global Navigation Satellite System (GNSS) & LiDAR technologies and their applications in natural resources survey and monitoring including Agriculture and Soils, Forestry and Ecology, Geology and Mineral Resources, Water Resources, Marine Resources, Urban and Regional Planning, Atmospheric Studies and Disaster Management.

It is a four-semester course in which first two semesters are devoted to exhaustive course work and other two semesters have a research project. The course work consists of 5 core papers in technology area, 4 core papers in subject specialization, 1 core paper in research skill development and three choice based elective papers. Two elective papers, 3 papers includes advanced geospatial technology such as Web Technology, Geodata Visualization, Statistics & Programming of Geodata, Natural Resources Management, Environmental Monitoring, and Climate Change Studies. In the third elective paper, a candidate needs to carry out a theme-specific interdisciplinary case study out of the 60 topics offered from 8 specializations. During the course, a candidate can opt for one of the following 8 specializations-

- Agriculture and Soils
- Forest Resources & Ecosystem Analysis
- Geoinformatics
- Geosciences
- Marine & Atmospheric Sciences
- Satellite Image Analysis & Photogrammetry
- Urban & Regional Studies
- Water Resources

M.Tech. Course Structure



Core papers under each specialization as per table given on page no. 25

arunavnanda7@gmail.com

Arunav Nanda

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Water Resource)
B.Tech (Agriculture Engineering)

Area of Interest:

Climate change studies,Geospatial Python, SAR Polarimetry, Drought monitoring and impact assessment, Hydrological modelling, Crop mapping and monitoring, Agro-meteorology, Surface Energy Balance study

Software Skills:

ArcGIS, ENVI, ERDAS IMAGINE, PolSAR Pro, HEC-HMS, HEC-RAS, BRAT, QGIS, ILWIS, EPANET, Google Earth Engine, GRADS,VIC, SNAP

Thesis:

Analyzing the impact of meteorological drought on hydrological regime of Indian river basins

Abstract:

Drought is a prolonged dry period in climate cycle that can occur anywhere in the world. It is very difficult by conventional methodologies to predict its occurrence and mitigation. This study involves creating a tool to predict the advent of meteorological drought in a given basin and creating a statistical indices so as to predict the future extreme events which may occur in a river basin by studying the trend of drought's behavior.

pandey.abhi876@gmail.com

Abhishek Kumar

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Forestry and Ecology)
B.Sc. - Hons. (Forestry)

Area of Interest:

Land Surface Phenology, Forest Cover Mapping and Monitoring, Geospatial Application for Wildlife Habitat and Natural Management, Hyperspectral Image Processing

Software Skills:

R, ArcGIS, ERDAS IMAGINE, ENVI, SNAP, QGIS, FRAGSTAT, TIMESAT, MATLAB, SAGA GIS, eCognition, SPIRITS.

Thesis:

Spatio-temporal Variability of Land Surface Phenology at Multi-Scales and its Response to Climatic Variables in Major Forest Formations of India

Abstract:

Climate change in recent times adversely affected the phenology and shifted the dynamics, like early spring and late autumn in vegetation that lead to phenological imbalance across different trophic levels. Satellite data measure seasonal dynamics in terms of time and magnitude over the vegetated land surface known as Land Surface Phenology (LSP). In this study, attempt is made for consistent and accurate mapping of LSP over larger areas namely, the entire country of India.

arnabp893@gmail.com

Arnab Paul

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Marine and Atmospheric Sciences)
M.Sc (Marine Science)

Area of Interest:

Coastal biodiversity, Image analysis using cloud based platform, water quality analysis

Software Skills:

ArcGIS, Google Earth Engine, SNAP, Python, ENVI, R Studio, JavaScript, ERDAS IMAGINE.

Thesis:

Mapping The Intertidal Zone; A Case Study of Coastal Gujarat

Abstract:

Using multi-temporal Landsat data this paper will approach to build a s method for mapping elevation model of the intertidal zone of Gulf of Kutch. The paper adopted the method of using series of long-term Landsat images merged with the tidal height data employing wxtide32. Images are then divided into ten buckets of equal interval of tidal height and stacked down to single NDWI median image. This will provide the DEM at 30 m resolution.

anuvirawat@gmail.com

Anuvi Rawat

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Satellite Imagery Analysis & Photogrammetry)
B.Tech (Electrical Engineering)

Area of Interest:

Image Processing, Machine Learning, Deep Learning, Soft Computing, Automatic feature extraction, Data Science, Web-GIS, Microwave Remote Sensing

Software Skills:

Python, C, C++, JavaScript, PHP, SQL, R, ERDAS IMAGINE, ENVI, ArcGIS, QGIS, SNAP, Google Earth Engine, PostgreSQL, ODK, PhotoModeller, GeoServer, Blender, Microsoft Office.

Thesis:

Evaluation of Fuzzy and Learning based Classifiers for Specific Crop Mapping - A Temporal Approach

Abstract:

Time series data is helpful for remote sensing data classification. In this study Possibilistic c-Means algorithm and Noise Clustering algorithm is deployed in temporal domain to extract single class of interest. Also Convolutional neural network (CNN) and integrated CNN-RNN based approaches have been tested for the same data for such classification. Microwave data has also been integrated along with optical bi-sensor data to fill in the temporal gap.

: iatulkaushik@gmail.com

Atul Kaushik

Qualifications:

M.Tech. in Remote Sensing & GIS (Specialization: Forestry and Ecology)
M.Sc. (Environmental Science)

Area of Interest:

Forest mapping and monitoring, Site suitability for species, Reservoir sedimentation, Machine Learning.

Software Skills:

ArcGIS, ERDAS IMAGINE, QGIS, R, Python

Thesis:

Machine Learning based Integration of LiDAR and Optical Data for Monitoring Forest Biomass in Deforestation Hot Spots of Northeast India

Abstract:

Continued deforestation and forest degradation have resulted in the loss of global forest biomass/carbon stocks and thus magnifying the ill-effects of climate change. A robust method of monitoring forest biomass dynamics over large areas is possible only through remote sensing technology. Forest attributes such as canopy height can be directly retrieved from LiDAR data. This study involves utilizing space-borne LiDAR data from ICESat-2 for assessing forest above ground biomass.

nandabhi01@gmail.com

Abhinanda Saikia

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Geoinformatics)
B.Tech (Civil Engineering)

Area of Interest:

Civil Engineering, Web Development, Data Science, Cartography, GIS Applications, LiDAR in 3D Documentation of Buildings, Health GIS, Planning and Management, Sales, Visualization Techniques, Creative Production.

Software Skills:

QGIS, ArcGIS, GeoDa, AutoCAD, C++, ERDAS IMAGINE, Python, HTML, JavaScript, PHP, R, Google SketchUp, Microsoft Office, Google Earth Studio, ODK, PostgreSQL, Blender, Photo and Video editing software (Adobe Photoshop, Camtasia, Final Cut Pro).

Thesis:

Development of Dynamic Digital Atlas for Exploratory Spatial Data Analysis on Maternal Health Data.

Abstract:

The study explores the potential of a dynamic digital atlas for Health Data by applying techniques of Exploratory Spatial Data Analysis to analyze the underlying pattern in the big data. It implements better visualization techniques for GIS data to help organizations to find the underlying relations among various variables of the big data. Creation of a web portal for maternal health monitoring and generation of analytic graphs can be a major innovation in the project.

ashmitha.sab@gmail.com

Ashmitha Nihar M.

Qualifications:
M.Tech. Remote Sensing and GIS
(Specialization: Agriculture and Soils)
B.Tech (Agricultural Information Technology)

Area of Interest:
Crop modelling, climate change, Energy balance studies, sustainable agriculture, artificial intelligence in agriculture, UAV in Agriculture

Software Skills:
R, Python, C, C++, Java, ENVI, ERDAS IMAGINE, QGIS, SNAP, ArcGIS, SPSS, TIMESAT, GrADS

Thesis:
Modelling sugarcane crop yield using temporal satellite data

Abstract:
Remote sensing and GIS has the capacity to assist the adaptive evolution of agricultural practices in order to face the major challenges. This study is to map, monitor and predict yield of sugarcane, a major cash crop in India. A semi-empirical light use efficiency model is used to estimate yield at field scale. A deep learning approach is also experimented with, to assess it's operational capability to estimate sugarcane crop yield at a regional scale.

abhikumaryadav1@gmail.com

Abhishek Kumar Yadav

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Geosciences)
B.Tech (Civil Engineering)

Areas of Interest:
Fault mapping and strain modelling, Ionospheric TEC modelling, Earthquake precursor studies, Reservoir Sedimentation

Software Skills:
ArcGIS, QGIS, SNAP, ERDAS IMAGINE, GAMIT/GLOBK, MATLAB

Thesis:
Crustal Deformation and Earthquake precursor studies using GNSS in NW Himalaya

Abstract:
The amount of strain accumulated in a particular region can be measured using relative motion vectors of key locations in that region. Geodetic methods like GNSS have potential to measure motion of particular point with accuracy ranging from centimeters to millimeters. This project is aims at identifying regions in Northwest Himalayas where strain accumulation is high which could trigger large earthquakes. Also ionospheric TEC modelling is being performed for earthquake precursor analysis using GNSS data.

antonyjohm@gmail.com

Antony Joh Moothedan

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Water Resource)
B.Tech (Civil Engineering)

Area of Interest:
Computational Hydrology, Integrated Flood Risk Assessment, Climate Change Studies, SAR Data Processing, Cryospheric Studies

Software Skills:
R, C++, Python, SNAP, BRAT, PolSAR Pro, ArcGIS, ERDAS IMAGINE, ENVI, QGIS, ILWIS, Blender, HEC-HMS, HEC-RAS, MIKE11, EPANET, SRM, Spatial Manager, AutoCAD, STAAD Pro, Google Earth Engine.

Thesis:
Flood Risk Assessment Under Climate Change Scenario

Abstract:
With flood frequency likely to increase as a result of altered precipitation patterns triggered by climate change, there is a growing demand for more data, along with improved flood modelling for risk reduction. In the increasing flood risk scenario, understanding the primary drivers of changes in risk is essential for effective adaptation. The study aims at developing a flood risk framework for a flood-prone area and the adaptation policies under climate change.

ankitavashishtha@gmail.com

Ankita Vashishtha

Qualifications:
M.Tech. in Remote Sensing and GIS
(Specialization: Satellite Imagery Analysis and Photogrammetry)
B.E. (Electrical Engineering)

Area of Interest:
Planetary Science

Software Skills:
Python, JavaScript, PHP, SQL, R, ERDAS IMAGINE, ArcGIS, QGIS, SNAP, PolSARpro, ENVI

Thesis:
Polarimetric Modelling for Dielectric Characterization of Lunar Surface

Abstract:
My thesis is based on the machine learning based model to find out the dielectric constant values of lunar polar craters and to generate percentage weight map of water ice at the probable polar craters of the Moon. My work also includes the fresh ejecta characterization of craters and detection of lava tubes in lunar surface.

anirudhpundir1995@gmail.com

Anirudh Singh

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Geoinformatics)
B.Tech (Civil Engineering)

Area of Interest:
3D Modelling, LULC Modelling, Machine Learning,DataScience, RS & GIS Applications , DeepLearning

Software Skills:
Python, R, JavaScript, HTML, ArcGIS, Google SketchUp, ESRI CityEngine, PostGreSQL, QGIS, ERDAS IMAGINE, AutoCAD, IDRISI

Thesis:
LULC Dynamics Modelling and Prediction of Upper Ganga River Basin Using Machine Learning and CA-Markov

Abstract:
In this work comparison of ML models with CA- Markov is done. The research innovation is utilization of the Night Time Light as a socio-economic driver for LULC dynamics. The prediction of NTL for past or future is also done. The effect of usage of NTL as a driver on the accuracy of LULC modelling is checked.

bhanuprakashme28@gmail.com

Bhanu Prakash M. E.

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Satellite Imagery Analysis and Photogrammetry)
B. Tech (Electronics and Communication Engineering)

Area of Interest:
Microwave Remote Sensing, Synthetic Aperture Radar Image processing, Decomposition Modelling, SAR Polarimetry, SAR Interferometry

Software Skills:
Python, C, C++, Java Script, PHP, R, MATLAB, SNAP, PolSARPro, Radar Tools, GMT SAR, ERDAS IMAGINE, ENVI, ArcGIS, QGIS, PhotoModeler, GeoServer, Microsoft Office, Blender, Cesium.

Thesis:
PolInSAR Coherence Based Decomposition Modeling for Manmade and Natural Features.

Abstract:
This project is based on identifying the scattering ambiguities present in SAR images and improving the PolSAR decomposition algorithm by incorporating PolInSAR coherence technique. The multi-frequency analysis is done by implementing the improved algorithm on L-, C- and X-Band PolInSAR data.

gautamikush@gmail.com

Gautami Kushwaha

Qualifications:
M.Tech. in Remote Sensing and GIS
(Specialization: Urban and Regional Studies)
B. Plan

Areas of Interest:
GIS application in Infrastructure Planning and Management, Environment monitoring and conservation,
Disaster management.

Software Skills:
ArcGIS, ERDAS IMAGINE, ENVI, QGIS, Google Earth Engine.

Thesis:
Analyzing the trend of Urban Thermal Environment in Major Cities of Indian through Remote Sensing.

Abstract:
The study is focused on the trend analysis of urban heating and urban pollution phenomenon in cities/UAs of India having million-plus population. The urban heating and urban pollution effect are studied through land surface temperature (LST) and aerosol optical depth (AOD) product of MODIS. Mann-Kendall Trend Test is used for the estimation of trends. Trends are analyzed with different parameters like demography, climate, geography, vegetation, and terrain.

harshitatwari@gmail.com

Harshita Tiwari

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Geosciences)
B.Tech (Civil Engineering)

Area of Interest:
Synthetic Aperture Radar, Debris flow Modelling, Data Science, Water Resources Modelling

Software Skills:
ArcGIS, Python, ENVI, ERDAS IMAGINE, RAMMS

Thesis:
Threshold Modelling and DInSAR based monitoring for landslides early warning system

Abstract:
Every year during monsoons many slope-failure incidences are reported in the Alaknanda valley. The I-D equation approach is used for the prediction of landslides. Also, it uses the logistic Regression approach to assess the probability of landslide occurrence. RAMMS modelling of Langsi Landslide is done to predict future runout zones .The study also incorporates the use of Synthetic Aperture Radar techniques DInSAR to assess the deformation and displacement of the landslides for landslides early warning system.

juanmandy2811@gmail.com

Juan James Mandy

Qualifications:
M.Tech. in Remote Sensing and GIS
(Specialization: Forestry and Ecology)
M.Sc (Environmental Science)
B.Sc (Microbiology and Biochemistry)

Area of Interest:
Restoration Ecology, Rural Development.

Software Skills:
R Studio, JavaScript, ArcGIS, ERDAS IMAGINE, Google Earth Engine.

Thesis:
Assessment of Forest Productivity of Uttarakhand

Abstract:
This study uses a process based model i.e. Biome BGC model. It require GIS based data as well as field data as inputs with respect to soil, plant physiology and meteorological data. The output that it gives is productivity, which is significant in countering climate change.

chhkoushikey@gmail.com

Koushikey Chhapariya

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Satellite Imagery Analysis & Photogrammetry)
B.Tech (Electronics)

Area of Interest:
Satellite Image Processing and Analysis, Soft Computing, Machine Learning, Statistical Learning, Networking, WebGIS

Software Skills:
R, C, C++, Python, JavaScript, ERDAS IMAGINE, SNAP, ENVI, ArcGIS, QGIS, MATLAB, XILINX, OCTAVE, GeoServer, PostgreSQL, HDL

Thesis:
Non-linear Separation of Classes Using Spectral and Spatial Information with Kernel Based Modified Possibilistic Classifier.

Abstract:
This research work aims to incorporate kernels with Modified Possibilistic c-Mean (MPCM) algorithm to handle the non-linearity in the data and to overcome the coincident clusters. Parameters of MPCM classifiers were optimized to observe the effect of single as well as composite kernels. The kernel based MPCM algorithm was further incorporated with Spatial Local Information using Advance base classifiers. The optimized algorithm was further used on testing site to map burnt paddy field.

kasingh2694@gmail.com

Kunwar Abhishek Singh

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Water Resource)
B.Tech (Civil Engineering)

Area of Interest:
Water body mapping, Hydrologic and Hydrodynamic modelling, Assessing water quality, Reservoir Sedimentation

Software Skills:
Python, R, ArcGIS, QGIS, ENVI, ERDAS IMAGINE, HEC-HMS, HEC-RAS, Blender.

Thesis:
Water quality assessment of Inland waters using Field and Remote Sensing Based Techniques model

Abstract:
Remote sensing provides a synoptic view of the earth's surface that can provide spatial and temporal trends necessary for comprehensive water quality monitoring and assessment. Along with ground-based measurements and remote Sensing Based measurements are done to find out the most sensitive bands related to particular water quality and later on the ratio between the bands are used to define particular water quality parameters. Empirical and analytical models are also done for estimating the water quality parameters.

manaruchimohapatra@gmail.com

Manaruchi Mohapatra

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Water Resource)
B.Tech (Civil Engineering)

Area of Interest:
Computational Hydrology, Water Resources Management, Cryospheric Studies, Climate Change Studies, Deep Learning, Computational Geometry, Numerical Analysis and Data-driven Processing.

Software Skills:
ArcGIS, QGIS, ERDAS IMAGINE, ENVI, Geospatial Python, ILWIS, SNAP, BRAT, VIC, SWAT, SRM, HEC-HMS, HEC-RAS, SWMM, EPA-NET, Google Earth Engine.

Thesis:
Preparation of daily cloud-free snow cover dataset using spatio-temporal filters and Variational Interpolation.

Abstract:
The project aims to prepare a daily cloud free snow cover data set of 0.05 degree spatial resolution over the Asian continent by application of a series of spatio-temporal filters and Variational Interpolation (VI) to completely remove cloud pixels in MODIS daily snow cover data (MOD10C1 and MYD10C1). The dataset was validated by synthetic validation, against ground observation data GHCN, IMS data and Landsat 7 and 8 optical data.

mjani2197@gmail.com

Mohit Dipeshbhai Jani

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Water Resource)
B.Tech (Civil Engineering)

Area of Interest:

Flood Modelling (Hydrologic and Hydrodynamic), Glacier Dynamics, Soil Erosion

Software Skills:

Python, ArcGIS, QGIS, HEC-HMS, HEC-RAS, MIKE 11, SWAT, Google Earth Engine

Thesis:

Flood Inundation Modelling of Different Reservoir Release Scenario - A case study of Tehri Dam

Abstract:

Hydrodynamic Modelling is used to find out the velocity and depth of the water along the river stretches. The current study is based on the Ganga river till Haridwar to find the critical stretches. The study is carried out for PMF (Probable Maximum Flood) of 25, 50 and 100 year return period.

ammarashraf112@gmail.com

Mohd. Ammar Ashraf

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Urban and Regional Studies)
B. Plan

Area of Interest:

Urban and Regional Planning, Housing, GIS, Urban Infrastructure Planning (Storm water management, water supply), Disaster Management, Hydrological & Hydraulic modeling, Machine Learning & Data Science.

Software Skills:

QGIS, ArcGIS, City Engine, IDRISI, MS Office, AutoCAD, ERDAS IMAGINE, eCognition, ENVI, MS Office, Photoshop, Google Sketch up, Python, R Studio, SNAP, LPS, Hec-HMS, Hec-RAS, SWMM, CHI PCSWMM, EPANET, DHI MIKE URBAN

Thesis:

Urban Flood Risk Scenario Generation Using Swmm Model

Abstract:

Urban flooding is characterized by water-logging and inundation. Identification of urban flood susceptible areas within the urban limits are demarcated by Ensembling of AHP (Analytical Hierarchy Process) and FR (Frequency Ratio). Out of susceptible areas 3 pilot catchment areas are selected for hydraulic study of storm-water drainage. Simulation of stormwater flow in stormwater drainage is carried out for various extreme events and for various return periods of 2, 5, 10, 30, 50 and 100 years.

nikhil.iirs@gmail.com

Nikhil Ninad Kulkarni

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Satellite Imagery Analysis and Photogrammetry)
B.E. (Electronics and Telecommunication)

Area of Interest:

Automatic feature extraction, Deep learning for image processing

Software Skills:

Python, QGIS, ERDAS IMAGINE, ENVI

Thesis:

Semantic segmentation of high-ultra high resolution image for urban feature extraction using convolutional neural networks.

Abstract:

Deep learning algorithms using Convolutional neural networks are used to segment the buildings and roads in high to ultra-high resolution imagery. Semantic segmentation algorithm is used to automatically extract buildings and roads. High and ultra-high resolution image is used to train and test the CNN designed for semantic segmentation of buildings and roads in the imagery.

priyanka123.iirs@gmail.com

Priyanka Rao

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Urban & Regional Studies)
M.Sc. Geography, B.Sc. Botany, Zoology, and Geography

Areas of Interest:
Numerical Weather Modelling, Climate Modelling, Climate Change Studies, Atmospheric Science, Cartography

Software Skills:
WRF Modelling, GrADS, HTML, Python, R, JavaScript, ArcGIS, QGIS, ERDAS IMAGINE, ENVI

Thesis:
Integration of Fine Scale Urban Parameters in WRF-urban for Simulation of Heat Waves

Abstract:
Risk and Vulnerability hotspot has been identified using MODIS LST in the two biogeographic zones of northern India. After identification of hotspot, WRF model has been used for the simulation of heat waves by incorporating fine scale urban parameters like Local Climate Zone (LCZ) for the current scenario and for the future scenario prediction, firstly LCZ 2030 has been prepared and Land Surface Parameters (LSPs), like, LAI, Fapar, Albedo, etc., has been predicted.

raviraditya.singh@gmail.com

Raviraditya Singh

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Marine and Atmospheric Sciences)
M.Sc. (Physics)

Area of Interest:
Numerical Weather Prediction, Meteorology, Tropical Cyclones, Weather forecasting, Climate Change, Physical Oceanography

Software Skills:
R, JavaScript, Python, WRF-ARW, GrADS, MATLAB, Google Earth Engine, ArcGIS, ENVI, ERDAS IMAGINE, SNAP, QGIS

Thesis:
Simulation of the North Indian Ocean Tropical Cyclones using NWP model

Abstract:
Tropical Cyclones (TCs) develop only where SST is 26.5°C or more. SST represents the sea surface skin temperature, however TCs interact with the upper layer of the ocean. Thus, an important parameter that enhances the understanding of the TCs is the upper ocean heat storage, known as Ocean Subsurface Temperature (OST). Current study is designed to find out the impact of OST on TCs simulations using NWP model for the improved forecasting of TCs.

reshma.raj532@gmail.com

Reshma R.

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Geoinformatics)
B.Tech (Civil Engineering)

Area of Interest:
Parallel Computing, Data Cube, Indoor Positioning System, Atmospheric modeling.

Software Skills:
Python, C, C++, JavaScript, R, QGIS, ArcGIS, ERDAS IMAGINE, ENVI, SNAP, STAAD Pro, Auto CAD, STAAD foundation, R Studio, Web designing, PHP, Blender, ArcScene, ARCSI Atmospheric correction software, AROSICS Geometric Correction Software, Microsoft Office, Google Earth Engine, WEKA.

Thesis:
Development of Analysis Ready Data Framework under Parallel Computing Environment

Abstract:
This project is the development of an automated parallel framework for pre-processing of satellite data (currently supports sensor LISS3 and Uttarakhand region)and automatic ingestion of the processed data to Data Cube for analysis.

ronaksingh2014@gmail.com

Ronak Singh

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Forestry and Ecology)
B.Sc. - Hons. (Forestry)

Area of Interest:

Biodiversity, Climate Change, Forest Mapping & Monitoring, Forest inventory, Wildlife Habitat Suitability

Software Skills:

Python, JavaScript, ERDAS IMAGINE, ArcGIS, ENVI, SNAP, Google Earth Engine Platform, QGIS, Microsoft Office

Thesis:

Discrimination of Himalayan Alpine Plant Community Patterns using Machine Learning and Deep Learning

Abstract:

The Himalayan biodiversity richness is well known and least explored. The climate change effects on alpine vegetation biodiversity pattern is crucial to be under knowledge and hence the alpine vegetation community level mapping is crucial for the future conservation of depleting biodiversity. Machine learning and Deep learning classifications have a well defined place for classifications taking the benefits of Artificial Intelligence. Hence Machine Learning and Deep Learning could be useful for the purpose.

pawarshubham60@gmail.com

Shubham Pawar

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Urban and Regional Studies)
B. Tech (Urban Planning)

Areas of Interest:

GIS Applications, Data Science, Machine/Deep Learning, Urban Growth Modelling, Infrastructure and services, 3D city modelling, Web GIS

Software Skills:

Python, R, Google Earth Engine, ENVI, IDRISI, Agent Based Modelling, ESRI CityEngine

Thesis:

Modelling Urban Densification Process by Integrating Biophysical and socio-economic attributes

Abstract:

With the increase in population, urban areas face challenges of increased population size and unequal allocation of urban facilities. Urban planner has to deal with both the challenges. The location of the household plays a vital role in planning decisions. In this study, the agent-based decision model is used to simulate residential patterns. The model is beneficial to urban planners to analyse factors that are considered more important by different social-economic groups for residential location choices.

souviksankar2013@gmail.com

Souvik Sankar Mitra

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Geoinformatics)
B.Tech (Computer Science and Engineering)

Area of Interest:

Remote Sensing, GIS Application Development, WebGIS, Big Satellite Data Processing, Large Point Cloud Visualization and Processing, Web Application Development, Indoor Positioning System, Database Management, Data Science, Cartography, Distributed Computing, Digital Image Processing, Machine Learning.

Software Skills:

Python, R, C, C++, Java, SQL, HTML, PHP, JavaScript, JQuery, Ajax, BootStrap, AngularJS, NodeJS, Google Earth Engine, ArcGIS, QGIS, ERDAS IMAGINE, Rasdaman, PostgreSQL, MySQL, Potree, CloudCompare, ODK , GeoServer, XAMPP, Google SketchUp, Cesium, Android Studio, Blender.

Thesis:

Development of Web based Geoprocessing Framework using Array Database.

Abstract:

Array database provides an efficient storage and support of geoprocessing of multidimensional raster data using OGC web services. This project involves the development of web based framework which automates data ingestion in array database, provides geoprocessing support to a client. Also clustering algorithms are redeveloped in array database environment and its efficiency is checked over traditional clustering.

sumanraj31@gmail.com

Suman Kumari

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Geosciences)
B.Tech (Geoscience Engg.)

Area of Interest:

Glacier Dynamics, Climate Change, Optical & SAR Remote Sensing, Microwave Image Processing, GIS Application, Image Processing using computer based platform.

Software Skills:

Python, R, JavaScript, ArcGIS, QGIS, ERDAS IMAGINE, ENVI, ILWIS, Google Earth Engine, SNAP.

Thesis:

Estimation of Surface Velocity of Glaciers in Central Himalaya using SAR and Optical Remote Sensing Data

Abstract:

Himalayan Glaciers, also known as water tower of Asia, are strong indicators of climate change. And these changes are influenced by both climate change and glacier dynamics. So, the quantification of glacier movement is important for understanding ice-dynamics. These glaciers have potential to trigger hazardous events and recent retreat has become a global concern, impacting biodiversity as well as energy-sector. Remote Sensing techniques provide robust methods to model and monitor these inaccessible areas.

siddharth.iirs@gmail.com

Siddharth Gupta

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Satellite Imagery Analysis and Photogrammetry)
B.E. (Civil Engineering)

Area of Interest:

3D modelling, TLS data processing, Surveying & Cartography, Data Science, Machine Learning, Image Processing.

Software Skills:

Python, R, SQL, C, PHP, JavaScript, Cloud Compare, Agisoft Photoscan, ArcGIS products, Leica Cyclone, Faro Scene, Pix4D Mapper, QGIS, Google Earth Engine, ENVI, ERDAS IMAGINE, AutoCAD, PhotoModeler, Blender, Cesium, Web Development, Wordpress, Adobe After Effects, Microsoft Office, Corel Draw, Adobe Photoshop.

Thesis:

Development of a framework for integration of multiple source datasets for 3D documentation of heritage sites.

Abstract:

This project is aimed at 3D documentation of heritage sites using the integration of multiple datasets obtained from TLS & CRP techniques and creating a hierarchical database. This integrated dataset has been used for the extraction of architectural elements, damage detection, and reconstruction of damages.

suriyae78@gmail.com

Suriya Elango

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Agriculture and Soils)
B.Sc. (Agriculture)

Area of Interest:

Biophysical parameter retrieval, Crop Inventory, Land Use Land Cover Mapping, Watershed Monitoring, Soil Moisture Retrieval, Sustainable agriculture, Climate Change.

Software Skills:

PolSAR-PRO, SNAP, GMT, R Studio, ENVI, SPSS, Google Earth Engine, MATLAB, Blender, QGIS, ArcGIS

Thesis:

Assessment of Crop Growth Biophysical parameter response on Maize using SAR polarimetry.

Abstract:

Monitoring Crop growth parameters are vital input for crop yield modeling. This study aims to understand the Full-Pol C band RADARSAT SAR polarimetry response on the growth parameters like LAI, Biomass, and Plant height of an important coarse cereal throughout its phenological stages which could be retrieved through empirical and semi-empirical approach.

taanyabaunthiyal9690@gmail.com

Taanya Baunthiyal

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Geosciences)
M.Sc (Geology)

Area of Interest:
Mineral exploration using Hyperspectral Remote Sensing, Landslide Monitoring, Synthetic Aperture Radar for Disaster Monitoring

Software Skills:
Python, R ERDAS IMAGINE, QGIS, ArcGIS, ENVI, ILWIS, SNAP, Blender.

Thesis:
Detection and Characterization of target mineral assemblages and surface indicators using AVIRIS-NG Data

Abstract:
Mineral deposits are one of the natural wealth on which prosperity and development of a country depends. So mineral identification is the foundation of the geological application for hyperspectral remote sensing.A systematic investigation and prospecting is necessary to explore the potential area for mineral mapping. Hyperspectral remote sensing data provides unique spectral characteristics of minerologically altered zones and rock-forming minerals to map them with high accuracy.

vijaitakrishna19@gmail.com

Vijaita Krishna

Qualifications:
M.Tech. in Remote Sensing and GIS
(Specialization: Forestry and Ecology)
B.Sc.-Hons. (Forestry)

Area of Interest:
Application of SAR remote sensing in forestry, forest mapping, forest inventory, forest informatics and climate change.

Software Skills:
ArcGIS, ERDAS IMAGINE, ENVI, SNAP, PolSAR pro, QGIS

Thesis:
Optimizing forest disturbance and biomass estimation using space-borne SAR data.

Abstract:
Continued deforestation and forest degradation have resulted in the loss of global forest biomass/carbon stocks and thus magnifying the ill-effects of climate change. A robust method of monitoring forest biomass dynamics over large areas is possible only through remote sensing technology. Forest attributes such as canopy height can be directly retrieved from LiDAR data. This study involves utilizing space-borne LiDAR data from ICESat-2 for assessing forest above ground biomass.

vinitashinkar2014@gmail.com

Vinita Avinash Shinkar

Qualifications:
M.Tech. in Remote Sensing and GIS
(Specialization: Urban and Regional Studies)
B.Tech (Urban Planning)

Area of Interest:
Urban Growth Modelling, Urban Utility and Services Management, Urban Infrastructure, Water Balance Assessment, Statistics and Data Science

Software Skills:
Python, R, ArcGIS, QGIS, ERDAS IMAGINE, AutoCAD, IDRISI, ENVI, EPANET, SWMM, MIKE Urban, ARC-SWAT, HEC-RAS, HEC-HMS, Blender, ESRI CityEngine, Google SketchUp, Google Earth Engine

Thesis:
Urban Growth and Water Demand Modelling and Simulation in Tourism City

Abstract:
The research on urban growth and water demand involves multiple components that are achieved through remote sensing and GIS. Preparation of water supply database of Haridwar city and demand estimation for residential and floating populations has been performed. Water supply model has been created on EPANET and predictive simulation is performed for next 30 years. Water quality modelling has also been simulated. Also, urban growth modelling for Haridwar city has been performed in IDRISI software.

M.Sc. & PG Diploma in Geoinformatics

The Masters (M.Sc.) and Post Graduate Diploma (PGD) courses in Geoinformatics are offered within the framework of IIRS-ITC Joint Education Program (JEP). The M.Sc. Degree & PG Diploma in Geoinformatics are awarded by the University of Twente, Faculty of Geoinformation Science and Earth Observation, The Netherlands. The M.Sc course is of 18 months duration while PG Diploma is of 10 months duration. In M.Sc. course, the participants spend 4½ months at ITC, The Netherlands, while PG Diploma participants will remain at IIRS for the entire study period of the course (i.e. 10 months).

The M.Sc. and PGD is modular in structure and the modules are further classified into blocks. The Block-1 (Core Module) & Block-2 (Domain Specific Modules) are common to both M.Sc. and PGD courses. After the two blocks (Block-1 and Block-2), the M.Sc. and PGD students are seperated. The M.Sc. students proceed to ITC for advanced modules while PG Diploma students start their project work during Block-3. The Block-4 is exclusively for M.Sc.research work of 6 months duration undertaken at IIRS under the joint supervision of IIRS and ITC faculty.

Module		Duration	Module Topic	
1	Block 1: Core Modules	Geo-Information	(GI) Science and Earth Observation (EO): A Systems Based Approach	
2		3 weeks	GI Science and Modelling	
3		3 weeks	Earth Observation	
		3 weeks	System Earth, Users and Data Integration	
Catch-up Week/ Re-Sit Examination				
4		3 weeks	Databases, Mathematics & Programming	
Winter Break				
5	Block 2: Domain Modules	3 weeks	Principles of Spatial Data Quality	*Programming skills-2 (Part of Module-9):
6		3 weeks	Spatial Data Modeling and Processing	
7		3 weeks	Base Data Acquisition	
8		3 weeks	Image Processing	
9		3 weeks	Web Technology for GIS and Mapping and Programming	
10		3 weeks	Visualization and Dissemination of Geodata	
Postgraduate Diploma Course				
11 to 14	Block 3: Project	10 weeks	Individual Project, Report Writing, Evaluation	
M.Sc. Course				
11 to 15	Block 3: Research Profile	15 weeks at ITC/UT, The Netherlands	- Research Skills - 2 Advanced Modules - 1 Advanced Group Project - Finalisation and Defence of MSc Research Proposal	
16	Block 4: Individual M.Sc. Research	3 weeks at ITC/UT, The Netherlands	Individual MSc Research	
17 to 23		25 weeks at IIRS	Individual MSc Research, Thesis Writing and Defence	

aj1394@gmail.com

Anju Biju

Qualification:
PGD (Geoinformatics)
M.Sc. (Physics)
B.Sc. (Physics)

Area of Interest:
Remote Sensing, Hydrological Modelling, Marine Science, Machine Learning

Software Skills:
Python, R, C/C++, Microsoft Office, ArcGIS, ArcSWAT, ERDAS, IMAGINE,

asmitadeep27@gmail.com

Asmita Deep

Qualification:
PGD (Geoinformatics)
M.Sc. (Electronics)
B.Sc. (Physics)

Area of Interest:
Multitemporal night-time lights satellite imagery, Digital image processing, Data mining, Fuzzy Logic, Machine learning, IoT, spatio-temporal modelling, Artificial Intelligence, Big-Data Analysis, Digital signal processing, Digital Communication Systems

Software Skills:
R, Python, SQL, C/C++, ArcGIS, QGIS, ERDAS IMAGINE, Git, Shell/Bash Scripting, Web Cartography, MATLAB, LaTeX, VHDL, Keysight's Advance Design System (ADS), SilvacoTCAD, PSpice, NI Multisim, SciLab, MathCAD

a.anand0214@gmail.com

Ankita Anand

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
P.G.D. (Internet of Things)
B.Tech (Electronics & Communication)

Area of Interest:
Deep Learning for Remote Sensing, Machine Learning Classifiers, Optical Image Analysis,Image and Signal Processing, Bathymetry, Marine and Coastal Processes, Oceanographic Remote Sensing

Software Skills:
Python, R, JavaScript, PostgreSQL, C/C++, LaTeX, ArcGIS, ERDAS IMAGINE, QGIS, ENVI, Google Earth Engine (GEE)

Abstract:
Seagrasses also known as Blue Carbon because of their capability to store large volumes of carbon and contributing to the global carbon cycle thereby controlling Earth's temperature is the most ignored habitat of ecosystem.The study focusses on implementing pixel-based and object-based image analysis techniques using machine learning classifiers on Google Earth Engine to map the extent of Seagrass in the Marine Biosphere Reserve of India, Gulf of Mannar.

arunthilak95@gmail.com

Arun Balaji Ramathilagam

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
B.Tech in Agricultural Information Technology

Area of Interest:
Crop monitoring, Crop mapping, Biophysical parameters retrieval, SAR remote sensing

Software Skills:
Python, R, MySQL, PostgreSQL, ERDAS IMAGINE, QGIS, ArcGIS, ENVI, SNAP and Linux OS

Abstract:
Estimation of crop height, fresh biomass, vegetative water content and leaf Area Index from RADARSAT-2 using the semi-empirical water cloud model, by taking into account the vertical and horizontal variation in water content in the crop.

gaurbhaskar7@gmail.com

Bhaskar Gaur

Qualification:
PGD (Geoinformatics)
B.Tech. (Computer Science)
Area of Interest:
Web designing, Web GIS, DBMS, Spatial data Management, Satellite image digitization, Computer networking, Application of GIS to geological studies, environmental studies and natural hazard assessments.
Software Skills:
JavaScript, Python, C++, HTML, C#, Microsoft Access, PostgreSQL, MySQL, R, ERDAS Imagine, ArcGIS Desktop, ENVI,

midhujames33@gmail.com

Midhu James

Qualification:
PGD (Geoinformatics)
M.Sc. (Geology)
B.Sc. (Geology and Water Management)
Area of Interest:
Application of Remote sensing and GIS in Natural hazards, Glaciology, Groundwater Hydrology,Water Resource Management andClimatology.
Software Skills:
Python, R, ArcGIS, ERDAS IMAGINE, QGIS, SWAT, Google Earth Engine

nomit.rwt@gmail.com

Nomit Rawat

Qualification:
PGD (Geoinformatics)
B.Tech (Geographic Information Systems)
Area of Interest:
Web GIS, 3D GIS, Image Processing, Programming with Python, Statistics
Software Skills:
Python, R, ArcGIS Desktop, ArcGIS Server, Portal, Erdas Imagine, Qgis, Database Management Systems

maheshwaripayal001@gmail.com

Payal Maheshwari

Qualification:
PGD (Geoinformatics)
B.Sc. (Geology)
M.Sc. (Geology)
Area of Interest:
Hydrogeology, Photogrammetry and Remote Sensing
GIS, Natural Hazards, Geomorphology, Engineering Geology, Mining and exploration
Software Skills:
Python, R, ArcGIS, ERDAS IMAGINE, QGIS, ArcSWAT, Coral, Diagrammes, Microsoft Office

parimel.d@gmail.com

Parimelazhagan D

Qualification:
PGD (Geoinformatics)
B.E. (Computer Science)
Area of Interest:
Forest biomass mapping, LiDAR, Forest management plan, Forest Inventory, Machine Learning Algorithms
Software Skills:
ArcMap, QGIS, ArcScene

ravi.pandey336@gmail.com

Ravi Pandey

Qualification:
PGD (Geoinformatics)
Bachelors of Planning
Area of Interest:
Urban Analysis/ Planning/ Studies, Regional Analysis/ Planning/ Studies, GIS, Rural Planning, Urban climate, Remote sensing, Urban feature extraction, Infrastructure and services development and planning, Land management, Transportation and Logistics, Housing and Settlements,Web GIS, Data mining, Natural Language Processing, Optical Remote Sensing, Site Suitability Mapping, DBMS.
Software Skills:
Python, R, Javascript, PHP, SQL, C/C++, JAVA, PostgreSQL, ArcGIS, AutoCAD, Photoshop, Illustrator, Revit, Autodesk Maya, 3dsMax, ERDAS IMAGINE, Microsoft Office, NetLogo, QGIS, Vensim, e-Cognition, ENVI, IDRIS, PCI-Geomatica, SketchUp, HTML, CSS, Google Earth Engine.

ritwika3195@gmail.com

Ritwika Mukhopadhyay

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
B.Sc. (Forestry)
Area of Interest:
GIS, Remote Sensing, Photogrammetry, Polarimetric Synthetic Aperture Radar (PolSAR), Polarimetric SAR Interferometry (PolInSAR), Machine learning, Forest mensuration & inventory, Forest management, Geostatistics
Software Skills:
R Studio, Python, HTML, ArcMap, ArcScene, QGIS, SNAP, PolSARpro, ERDAS IMAGINE, IDRISI, ENVI, WEKA, PostgreSQL, MATLAB, Pix4Dmapper, eCognition
Abstract:
Forest biomass is the biophysical parameter which estimates the amount of carbon that is absorbed by the trees in the form of leaves, branches, trunk and roots. The leaves, branches and trunk form the aboveground biomass. PolSAR and PolInSAR data are used to estimate the aboveground biomass of the Doon Valley forest, through machine learning regression approach.

sukhraj.gill.sk@gmail.com

Sukhraj Kaur

Qualification:
PGD (Geoinformatics)
M.Sc. (Physics)
B.Sc. (Physics)
Area of Interest:
SAR Polarimetery for Oil-Spill Detection SAR Data Analytics, RS Applications in Oil and Gas Industry, Marine Data Acquisition, Location and positioning Intelligence, GIS Development using Artificial Intelligence, Machine Learning, and Deep Learning, Natural Language Processing, Sentiment Analysis, WebGIS.
Software Skills:
Python, R, ArcGIS, Qgis, SNAP, ERDAS IMAGINE, PHP, HTML, PostgreSQL, .net, Javascript, Jupyter Labs, Latex, AI and ML Tools: Theano, TensorFlow, PyTorch, Keras, Scikit Learn.

shahidshafai@gmail.com

Shahid Shuja Shafai

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
B.Tech (Civil Engineering)

Area of Interest:
Polarimetric Synthetic Aperture Radar (PolSAR), Image Classification, Geostatistics, Land Use Change Detection and Prediction, Hydrological Modelling

Software Skills:
Python, C, R, PostgresSQL, SNAP, ArcGIS, ArcSWAT, QGIS, ENVI, PolSARpro, ERDAS IMAGINE, AutoCAD

Abstract:
Model-based decompositions, a type of incoherent decomposition have been widely used to interpret the on-ground features by representing the backscattering mechanisms which are odd-bounce, double-bounce, volume scattering and helix scattering as a linear sum of second order covariance or coherency matrix. Even though these are able to relate well with the physical

harsha6772@gmail.com

Sriharsha Yegireddi

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
B.Tech (Agricultural & Food Engineering)

Area of Interest:
PolSAR, InSAR, PolInSAR, Image Processing, GIS, Databases, Machine Learning, Optical remote sensing, Geo Statistics

Software Skills:
Python, R, PostgreSQL, ArcGIS, QGIS, ERDAS IMAGINE, MATLAB, SNAP, ENVI, PolSARpro

Abstract:
This research focuses on Polarimetric calibration of Spaceborne compact polarimetric SAR data by minimizing polarimetric distortions caused by channel imbalance, crosstalk and faraday rotation using manmade point targets such as corner reflectors and natural distributed targets.

santhoshmandadi95@gmail.com

Santhosh Reddy Mandadi

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
B.Tech. (Mining Engineering)

Area of Interest:
Probability and Statistics, Spatial Data Mining, Geo-Statistics, Machine Learning, Image Analysis.

Software Skills:
Python, R, PostgreSQL, ArcGIS, QGIS, Sat-SCAN, GeoDa, WEKA, ERDAS IMAGINE

Abstract:
This study is aimed at identifying the Spatial and Spatio-Temporal hotspots of infant deaths in India, using Spatial Scan Statistics. And also discovering the significant covariates for the reported infant deaths.

v.b.guthula@student.utwente.nl

Venkanna Babu Guthula

Qualification:
M.Sc. in Geo-information Science and Earth Observation
(Specialization: Geoinformatics)
B.Tech (Geoinformatics)
Diploma (Civil Engineering)

Area of Interest:
Deep Learning, Machine learning, Spatial data processing, Spatial data visualization, Working with databases

Software Skills:
Python, R, JavaScript, HTML, CSS, MATLAB, QGIS, ArcGIS, PostGIS, GeoServer, JOSM, Linux, Git, GitHub

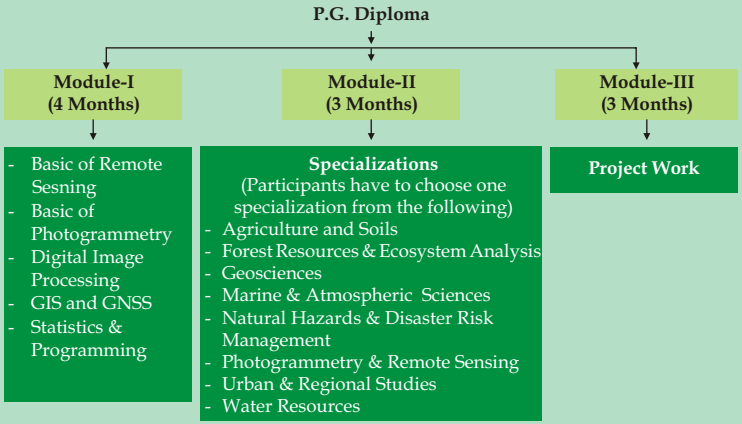
Abstract:
Extracting road network and creating road maps is essential in many applications such as autonomous driving and city planning. Road maps have been creating by mapping manually and by recording GPS traces. However, these solutions are expensive and have small coverage. In this thesis, the main research is focusing on extracting road

PG Diploma (RS&GIS)

The PG Diploma programme aims to provide in-depth understanding of remote sensing, satellite image analysis, Geographic Information System (GIS) and Global Navigation Satellite System (GNSS) technologies and their applications in various fields viz., Agriculture and Soils, Forestry & Ecology, Geosciences, Water Resources, Marine and Atmospheric Sciences, Urban and Regional Studies, Large-scale Mapping, Disaster Management Studies, etc.

The PG Diploma course is modular in structure. First module covers basics of geospatial technologies, second module deals with thematic disciplines, and third module contains pilot project work. The PG Diploma programme is conducted in following disciplines-

- Agriculture and Soils
- Forest Resources & Ecosystem Analysis
- Geoinformatics
- Geosciences
- Marine & Atmospheric Sciences
- Natural Hazards & Disaster Risk Management (NHDRM)
- Photogrammetry & Remote Sensing
  (referred as Satellite Image Analysis & Photogrammetry for M.Tech.)
- Urban & Regional Studies
- Water Resources



***Core paper under each specialization in module II of M.Tech/P.G. Diploma**

Thematic Specialization	Subject
Agriculture & Soils	• Land Use & Soil Resource Assessment • Agri-informatics • Environmental Soil Science • Satellite Agro-meteorology
Forest Resources and Ecosystem Analysis	• Forest Mapping & Monitoring • Forest Inventory • Forest Informatics • Forest Eco-System Analysis
Geoinformatics[#]	• Spatial Data Quality • Programming Skills Development for Geo-Processing • Spatial Database Handling, Modelling & GIS Implementing Architectures • Geo-Statistics
Geosciences	• Earth Science and Planetary Geology • Data Processing and Analysis for Geosciences • Applied and Tectonic Geomorphology • Engineering Geology and Groundwater
Marine & Atmospheric Sciences	• Satellite Oceanography • Satellite Meteorology • Coastal Processes and Marine Ecology • Atmosphere and Ocean Dynamics
Natural Hazards & Disaster Risk Management (NHDRM)[$]	• Natural Hazards and Disaster Management: Concepts and Overview • Image Interpretation and Analysis for Natural Hazards Assessment • Application of Geoinformatics to Environment Hazards • Application of Geoinformatics to Geological Hazards • Application of Geoinformatics to Hydro-meteorological Hazards
Photogrammetry & Remote Sensing	• Emerging Sensors and their Processing • Image Processing Algorithms • Digital Photogrammetry and Mapping • Mathematical Computing for Geospatial data analysis
Urban & Regional Studies	• Fundamentals of Urban and Regional Planning • Geospatial Technologies for Urban & Regional Area Analysis • Urban Resources, Services and Facilities Analysis • Geospatial Technologies for Urban and Regional Enviroment Studies
Water Resources	• Water Resources Assessment • Watershed Analysis and Planning • Water Resources Development • Water Resources Management

**Common with M.Tech. as per page no. 8* *[#]Offered under M.Tech. programme only* *[$]Offered under PGD programme only*

akankshsharawat005@gmail.com

Akanksha Rawat

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Agriculture & Soils)
M.Sc. (Environmental Science)
B.Sc. (Geology)

Area of Interest:
Environmental Impact Assessment, Drought assessment , Hazard Zonation Mapping, Application of RS and GIS in hydrological disasters Climate Change, Soil Erosion, Carbon Sequestration, Crop Phenology, Soil fertility, Microwave and Hyperspectral Data Analysis, Soil Resource Mapping.

Software Skills:
Python, R, SQL, ArcGIS, QGIS, ERDAS IMAGINE, SNAP, ENVI, Microsoft Office

akshayi.ajay96@gmail.com

Akshayi As

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Geoscience)
M.Sc. (Earth Sciences) Gold Medalist
B.Sc. (Geology)

Area of Interest:
GIS ,Spatial Data Analysis, Data Mining, Glaciology using Remote sensing, Geoscience applications including Seismic data processing and analysis, Lidar Data processing, SAR Data Processing and Analysis.

Software Skills:
C++ Python, JAVA, ArcGIS, ERDAS IMAGINE, ENVI

amritheshkv@gmail.com

Amruthesh Kooloth Valappil

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Marine & Atmosphere Science)
M.Sc. (Applied Geology)
B.Sc. (Geology)

Area of Interest:
Climatology, Earth system dynamics, Martian geology

Software Skills:
Python, R, C++, ArcGIS, ENVI, ERDAS IMAGINE, QGIS, GrADS, CraterStat, CraterTool

agnesliji@gmail.com

Agnes Liji George

Qualification:
PGD in Remote Sensing & GIS (Specialization: Urban and Regional Studies)
M.Sc. (Geoinformatics)
B.Sc. (Geography)

Area of Interest:
Urban, Regional and Rural planning, Urban Disaster Management, Digital Image Processing

Software Skills:
R, Python. ArcGIS, QGIS, ERDAS IMAGINE, ENVI, SNAP, AutoCAD

dr.amitvishwakarma@gmail.com

Amit Vishwakarma

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Water Resource)
M.Sc. (Geology)
B.Sc. (Physics)
Area of Interest:
Teaching and Research
Software Skills:
Python, R, QGIS, SNAP, ILWIS, ARCGIS, ERDAS IMAGINE, ENVI, Hydrological Modelling

binujohnsp@gmail.com

Binu Johns

Qualification:
PGD in Remote Sensing & GIS
(Specialization: Agriculture & Science)
M.Sc. (Environmental Science)
B.Sc. (Agriculture)
Area of Interest :
Flood Mapping, Crop Phenology, Soil Erosion modelling, Soil fertility, Analytical chemistry, Forest Degradation assessment, Wetlands Management, Disaster Risk Management, Climate Change, Environmental Impact Assessment, Watershed Management.
Software Skills :
R, ArcGIS, QGIS, SNAP, ENVI, ERDAS IMAGINE, SPSS

chandunavami@gmail.com

Chandni C K

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Photogrammetry and Satellite Image Processing)
M.Tech (Remote Sensing and Wireless Sensor Networks)
B.Tech (Applied Electronics and Instrumentation)
Area of Interest:
Digital Image Processing, Microwave Remote sensing (Volcanology), UAV Photogrammetry, Computational Engineering, Robotics, Wireless Sensor Networks and Electronics Circuit designing.
Software Skills:
Python, R, SNAP, QGIS, Matlab, ENVI, ERDAS, Pix4d, Agisoft, ArcGIS, Arduino, Microsoft Office

deblina.banerjee.94@gmail.com

Deblina Banerjee

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Geoscience)
M.Sc. (Geology)
B.Sc. (Geology)
Area of Interest:
Planetary Geosciences, Earthquakes, Plate Tectonics, Volcanology, Geomorphology, Meteorology, Natural Hazards and Disaster Management.
Software Skills:
Python, R, ArcMap, QGIS, ERDAS IMAGINE, ENVI, SNAP, LATEX, LPS, Google Earth Pro.

dishachauhan18@gmail.com

Disha Chauhan

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazard & Resource Disaster Management)
M.Sc. (Environmental Science)
B.Sc. (Life Science)

Area of Interest:
Disaster risk reduction and management, Application of RS and GIS in hydrological disasters, Environmental Impact Assessment, Vulnerability assessment, Hydrological modelling, Drought assessment , Hazard Zonation Mapping and Impact of Climate Change

Software Skills:
Python, R, ArcGIS, QGIS, ERDAS IMAGINE, SNAP, ENVI, ILWIS, SQL, Microsoft Office

ektagauri9559@gmail.com

Ekta Singh Chauhan

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Urban & Regional studies)
M.A. (Geography)
B.Sc. (Physics and Mathematics)

Area of Interest:
Urban and rural planning, town planning, land management, urban climate, remote sensing and GIS, Digital image processing, Urban feature extraction, Infrastructure and service development, 3D modeling, machine learning, deep learning

Software Skills:
Python, R, ERDAS IMAGINE, QGIS, ArcGis, ENVI, Microsoft Office (Word, Excel, Power Point)

singh2201himanshu@gmail.com

Himanshu Kumari

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Photogrammetry and Satellite Image Processing)
B.Tech (Electrical & Electronics)

Area of Interest:
Aerial and Satellite Photogrammetry, Microwave Remote Sensing, LiDAR Remote Sensing, Image processing, GNSS , and cosmos science

Software Skills:
C, Python, R, LabVIEW, ERDAS IMAGINE, ArcGIS, QGIS, ENVI, SNAP, Agisoft Photoscan

premachandranhrishikesh@gmail.com

Hrishikesh P

Qualification:
PGD in Remote Sensing & GIS (Specialization: Marine & Atmospheric Science)
MSc. (Biological Oceanography and Biodiversity)
B.Sc. (Zoology)

Area of Interest:
Marine Ecology, Biogeochemistry, Ocean Colour Remote Sensing, Satellite Oceanography and Coastal processes

Software Skills:
R, QGIS, ArcGIS, ERDAS IMAGINE, ENVI, GrADS, PRIMER-e

himanikhati.hk11@gmail.com

Himani Singh Khati

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Forestry Resources and Ecosystem Analysis)
M.Sc. (Environmental Sciences)
B.Sc. (Forestry, Zoology, Botany)

Area of Interest:
Biodiversity conservation, Data science, Remote sensing & GIS, Web mapping, Desertification, Restoration Ecology, Environmental justice, Forest ecology, Protected area planning, Wildlife protection, Human ecology & Community participation.

Software Skills:
R, ERDAS IMAGINE, ArcGIS, SNAP, eCognition, ENVI

lok.jayanthi@gmail.com

Jaya Kola

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Agriculture & Soils)
M.Sc (Agriculture)
B.Sc (Agriculture)

Area of Interest:
Remote sensing applications mainly in Agriculture, Crop assessment, Crop discrimination, Crop health management, Soil resource mapping, Soil health in agricultural systems, Agroforestry, Climate change, Environmental Impact Assessment, Global food security,SAR data processing

Software Skills:
R, ERDAS IMAGINE, ArcGIS, QGIS, SAGA, Postgres SQL, ENVI, SNAP, Microsoft Office

krishalajoshi@gmail.com

Krisala Joshi

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Marine and Atmospheric Science)
M.Sc. (Environmental Science)
B.Sc. (Physics, Math, Physical Science)

Area of Interest:
Atmospheric Science and Ocean Dynamics, Climate Change

Software Skills:
R, ERDAS IMAGINE, ENVI, MATLAB, ArcGIS, QGIS, Microsoft Office

kiranjangra200@gmail.com

Kiran Jangra

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Forestry Resources and Ecosystem Analysis)
M.Sc. (Forestry)
B.Sc. (Botany, Zoology & Chemistry)

Area of Interest:
Forest biomass estimation, Carbon dynamics study, Environment Impact Assessment, Forest mapping and monitoring, Agroforestry and Urban Forestry, Wildlife Corridor Mapping.

Software Skills:
R Studio, ERDAS IMAGINE, ArcGIS, QGIS, SNAP, ENVI, e-Cognition

miss.krishna10@gmail.com

Krishna Das

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazard and Disaster management
M.Sc. (Ecology and Environmental Sciences)
B.Sc. (Zoology)

Area of Interest:
Disaster risk Reduction and Management, Application of RS and GIS in Hydrological Disasters, Forest Fire Mapping, Environmental Impact Assessment, Forest cover Monitoring and Change Detection, Wildlife Suitability Mapping, Geospatial Application for Natural Resource Management, Land Use Land Cover Mapping, Climate Change

Software Skills:
R, ArcGIS, QGIS, ERDAS IMAGINE, ENVI, SNAP, ILWIS, Fragstats, Microsoft Office, DBMS

kashifanwaar9@gmail.com

Kashif Anwaar

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Urban & Regional Studies)
B.Tech (Civil)

Area of Interest:
Surveying, Mapping, Data Analysis, Construction, Infrastructure Development & Management

Software Skills:
AutoCAD, ArcGIS, QGIS, ERDAS, ENVI, SNAP, Microsoft Office (Excel, Powerpoint, MS-word)

nsnandini07@gmail.com

Nandini Sharma

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazard & Disaster Management)
M.Sc. (Environmental Science)
B.Sc. (Life Sciences)

Area of Interest:
Glaciology, Ecology, Application of SAR Remote Sensing in Disaster Management, Impact of Climate Change on Natural Hazards, GIS application in Disaster Management Studies, Environmental Impact Assessment

Software Skills:
Python, R, QGIS, ArcGIS, Snap, Evation Software, ENVI, ERDAS IMAGINE, (Basic), ILWIS, Microsoft Office

nyenshu@gmail.com

Nyenshu Seb Rengma

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Agriculture & Soils)
M.Sc. (Environmental Science)
B.Sc. (Botany)

Area of Interest:
Application of remote sensing and GIS in Climate change, Agro-meteorology, Land use and soil resource assessment, Agri-informatics, Watershed management, EIA, EMP, Environmental conservation. discrimination, Crop inventory

Software Skills:
ArcGIS, ERDAS IMAGINE, QGIS, SNAP, ENVI

preethisriniij@gmail.com

Preethi S

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Photogrammetry and Satellite Image Processing)
B.E. (Electronics and Communication)

Area of Interest:
Digital Image Processing, Microwave Remote sensing, Photogrammetry, Circuit Analysis, Control System, GIS and Applications

Software Skills:
C, Python, R, ERDAS IMAGINE, ArcGIS, QGIS, ENVI, SNAP, MATLAB, Agisoft Photoscan, ARM Keil, Arduino

parul.dhingra2709@gmail.com

Parul Dhingra

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Photogrammetry and Satellite Image Processing)
M.Sc. (Communications and Multimedia)
B.E. (Electronics and Communication)

Area of Interest:
Digital Image Processing, Machine Learning

Software Skills:
Python, MATLAB, ArcGIS, QGIS, ERDAS IMAGINE, ENVI, LaTeX

ravnish.batth@yahoo.com

Ravnish Kaur

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Urban & Regional Studies)
M. Arch. (Landscape)
B.Arch.

Area of Interest:
Urban and Regional Landscape Planning; Urban Ecology

Software Skills:
ArcGIS, QGIS, ERDAS IMAGINE, ENVI, AutoCAD, Adobe Photoshop, Google SketchUP, Revit

russellsarkar43@gmail.com

Russell Sarkar

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Water Resources)
M.Sc. (Applied Geology)
B.Sc. (Geology)

Area of Interest:
Hydrological and hydrodynamic modelling, Water Resources Management, Watershed Planning and Monitoring, Glacier Studies, Environmental Impact Assessment, Disaster Management, Transportation and Structural Analysis.

Software Skills:
Python, R, ArcGIS, ERDAS IMAGINE, ENVY, SNAP, CROPWAT, QGIS, ILWIS

mail.shivanijoshi@gmail.com

Shivani Joshi

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Geosciences)
M.Sc. (Geology) Silver medalist
B.Sc. (Physics, Mathematics, Geology)

Area of Interest:
Seismology (Earthquake prediction), SAR data interpretation, Geological feature mapping, Geodynamics, Plate Tectonics, Climatology, Planetary Sciences, Natural hazards

Software Skills:
Python, R, ERDAS IMAGINE, LPS, ENVI, SNAP, ArcGIS, QGIS, Google Earth Engine

sadafperwaiz4030@gmail.com

Sadaf Perwaiz

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Geosciences)
M.Sc. (Applied Geology)
B.Sc. (Geology)

Area of Interest:
Planetary geoscience, Mineral exploration, Geochemistry, Geomorphology, Glaciology, Structural geology, Plate tectonics

Software Skills:
R, Python, ENVI, ERDAS IMAGINE, ArcGIS, QGIS, SNAP, Google earth pro, SQL

smsmita121212@gmail.com

Suchismita Choudhury

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Marine and Atmospheric Science)
M.Sc. (Applied Mathematics)
B.Sc. (Mathematics, Physics Chemistry)

Area of Interest:
Mathematical Modelling for Atmosphere and Ocean

Software Skills:
C, C++, R, Python, QGIS, ERDAS IMAGINE, MATLAB, SNAP, ArcGIS

n.subhashree1239@gmail.com

Subhashree Subhasmita Das

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Geoscience)
M.Sc (Geology)
B.Sc. (Geology)

Area of Interest:
Geological Feature Mapping, Hyperspectral Remote Sensing, Planetary Science, Natural Hazard And Disaster Management Using Remote Sensing And GIS

Software Skills:
Python, R, ArcGIS, QGIS, ENVI, GLOBAL MAPPER, GOOGLE EARTH, ERDAS IMAGINE

sumitsharmacivil@gmail.com

Sumit Sharma

Qualification:
PGD in Remote Sensing & GIS (Specialization: Water Resources)
B.Tech (Civil Engineering)
PGD (Urban Planning & Development)

Area of Interest:
Hydrological Modelling, GIS & Remote sensing, Hydrological Extremes & Hazards, Watershed development Planning. Water Resource Management.

Software Skills:
R, ArcGIS, QGIS, ERDAS IMAGINE, ENVI, Auto CAD,

shailja309@gmail.com

Shailja Mamgain

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazard & Disaster Management)
M.Sc. (Environment Management)
B.Sc. (Chemistry, Botany & Zoology)

Area of Interest:
Disaster Management, Hazard Zonation Mapping, Modelling, Environment Impact Assessment, Forest mapping and monitoring, Impact of Climate Change, Human-wildlife conflict, wildlife conservation, polar research.

Software Skills:
Python, R, ArcGIS, ERDAS IMAGINE, SNAP, ENVI, QGIS, SeaDAS, eCognition, ILWIS, Microsoft Office, Adobe Photoshop

sid9953476607@gmail.com

Sidharth Narayan Borah

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Forestry Resources and Ecosystem Analysis)
M.Sc (Environmental Studies & Resource Management)
B.Sc. (Zoology)

Area of Interest:
Biodiversity conservation and management (with focus on wildlife-related studies), Digital Image Processing (Optical datasets), Disaster risk reduction and management, Solid and hazardous waste management, Wastewater modeling and management.

Software Skills:
R, ArcGIS, QGIS, ERDAS IMAGINE, eCognition

chakrabortyshubhashree1@gmail.com

Shubhashree Chakraborty

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Forestry Resources and Ecosystem Analysis)
M.Sc. (Environment Management)
B.Sc. (Botany)

Area of Interest:
Environmental Impact Assessment, Restoration ecology, Forest mapping and monitoring, Biodiversity conservation, Pollution monitoring.

Software Skills:
R, ERDAS IMAGINE, ArcGIS, QGIS, SNAP, ENVI, eCognition

mislam1995@gmail.com

Shah Masud Ul Islam

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Photogrammetry & Satellite Image Processing)
M.Sc. (Remote sensing & GIS)
B.Sc. (Geology)

Area of Interest:
Digital Image processing, Hyperspectral Remote Sensing, Natural Hazard and Disaster Management using remote sensing and GIS.

Software Skills:
Python, R, ArcGIS, QGIS, ERDAS, ENVI, SNAP, Global Mapper, Weka

shivanginisinghss@yahoo.co.in

Shivangini Singh

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Photogrammetry & Satellite Image Processing)
B.Tech (Electrical and Electronics)

Area of Interest:
Remote sensing of the cryosphere (Polar Regions and the Himalayas) using SAR parametric extraction, UAV and LiDAR, GPS and in-field instrumentation

Software Skills:
Python, R, ArcGIS, ERDAS IMAGINE, ENVI, SNAP, PolSARPro, QGIS, Agisoft Photoscan, e-Cognition, Adobe Photoshop, PLSQL, Oracle ODT

sakshigupta2491@gmail.com

Sakshi Gupta

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Urban and Regional Studies)
M. Planning (Urban)
B. Arch.

Area of Interest:
Urban, Regional and Rural Planning

Software Skills:
ArcGIS, QGIS, ERDAS IMAGINE, ENVI, AutoCAD, Microsoft Office

tharakthankappan83@gmail.com

Thara K Thankappan

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Agriculture & Soils)
M.Sc. (Environment Science & Disaster Management)
B.Sc. (Zoology)

Area of Interest:
Land Use and Land Cover Mapping, Crop Inventory, Soil Resource Mapping, Crop Discrimination, Environment Impact Assessment, Land Degradation, Forest Degradation Assessment, Wildlife, Shoreline Change Detection, Risk Assessment & Disaster Management, Social Impact Assessment, Watershed Management

Software Skills:
R, QGIS, GRASS GIS, ArcGIS, ERDAS IMAGINE, ENVI, SNAP, AutoCAD, Microsoft Office

taanishq07@gmail.com

Tanisha Jaiswal

Qualification:
PGD in Remote Sensing & GIS
(Specialization: Natural Hazard & Disaster Management
M.Sc. (Environmental Science)
B.Sc. (Biotechnology)

Area of Interest:
Susceptibility, Vulnerability and Risk assessment, Remote Sensing and Application, Aerosols trajectory Mapping, Rainfall analysis, Drought and Flood Assessment, Application of RS and GIS in Hydrological Modelling, Environmental Impact Assessment, Disaster Management, Hazard Zonation Mapping, Impact of Climate Change

Software Skills:
Python, R, ArcGIS, QGIS, HEC-HMS, ERDAS IMAGINE, ENVI, SNAP, ILWIS, Mircosoft Office, DBMS, GOOGLE EARTH ENGINE, TrajSat-MeteoInfo.

monishveru@gmail.com

Verukonda Sai Monish

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Urban & Regional Planning
M. Planning (Urban & Regional)
B.Tech (Civil)

Area of Interest:
Urban Sprawl Analysis, Urban Planning and Management, Growth Modelling Conservation

Software Skills:
Python, R, ERDAS, ENVI, ArcGIS, QGIS, SNAP, AUTO CAD, Mircosoft Office

Concept and Compiled by:

- Dr. Swati Swaroop, Sci/Eng-SE, PPEG
- Dr. Puneet Swaroop, Sci/Eng-SF & Head, BPMD
- Dr. Hari Shanker Srivastava, Sci/Eng-SG & GH, PPEG

Programme Planning and Evaluation Group, IIRS

Student Volunteers:

- Mr. Siddharth Gupta
- Ms. Ritwika Mukhopadhyay
- Ms. Sukhraj Kaur
- Mr. Shah Masud Ul Islam

For further details please contact:

Dr. Hari Shanker Srivastava
Group Head,
Programme Planning & Evaluation Group
Indian Institute of Remote Sensing, Dehradun-248 001
Email: ppeg@iirs.gov.in,
Phone: (0135) 252 4105/ 4107/ 4106/ 4108/ 4109

Indian Institute of Remote Sensing

4 Kalidas Road, Post Box No. 135,
Dehradun, Uttarakhand, Pin - 248001.

www.iirs.gov.in