भारतीय सुदूर संवेदन संस्थान

Indian Institute of Remote Sensing

देहरादून / Dehradun

iirs

Placement Brochure 2021

- 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 nine 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 nine 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 12,728 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, 2651 Institutes/Organizations spread across India are networked with IIRS. More than 2,88,533 participants have benefitted so far from IIRS Outreach Programmes.

The Placement Brochure of 2021 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 very bright future and steady career 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 12,728 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, 2651 Institutes/ Organizations are networked with IIRS and more than 2,88,533 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 one of the main research focus. 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 seventy six 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 nine 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 nine 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 12,728 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, 2,651 institutions and organizations spread across India are networked with IIRS. More than 2,88,533 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 Ph.D. 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 Ph.D. 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, hostels, library, student affairs, placements, 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 in recent 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 department established in 1966. 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, soil quality, digital soil mapping, carbon accounting modeling by integrating flux observation, drought monitoring, and climate change impact studies etc. The department is well equipped with a variety of portable ground-truth equipments for quantitative measurements of bio-physical parameters of crops, and a Central Analytical Facility for soils 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 skill development on the utility of aero-space remote sensing for forest resource inventory, monitoring and management. Nationwide forest cover mapping, Nationwide biome level characterization, Indian forests biodiversity characterisation 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 and regional analysis, urban utilities and facilities mapping and modelling, urban micro climate, urban hazards modelling, etc. 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 flood 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 equipments. 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, Machine and Deep Learning , 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. & PG Diploma course in Geoinformation Science and Earth Observation (specialization in Geoinformatics) is one of its major programme offered since 2002 as a part of Joint Education Programme (JEP) of IIRS and ITC, The Netherlands. The department conducts training, education and research in the field of Geoinformatics like GIS, Web GIS, Geospatial modeling, 3D City Models, Spatial Data Mining, Health GIS and software tools using FOSS4G. Recently the department is offering courses in the upcoming fields like Big data Analytics, AI based machine learning and deep learning algorithims, Tourism GIS and GIS for Supply Chain Management. The GID department has developed many geoportals which are being hosted from IIRS like air quality, geoladakh and IBIN. Many geospatial solutions with mobile app and dashboard have been developed like Swachh bharat abhiyaan, forest fire reporting for state forest department, geotagging for animal husbandary and kumbha mela applications.

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 Department, one of the oldest department of IIRS, was established in 1966 to provide professional training to scientists and technical staff of Government and Public Sector organisations dealing with geoscientific applications such as geological survey and mapping, mineral and oil exploration, engineering geological survey, ground water exploration, etc. It has successfully executed a large number of projects which include Geodynamics of the Himalaya, Landslide modelling, Seismic Hazard Assessment, Active Fault mapping, Liquefaction modelling, Differential Interferometric SAR (DInSAR) based land surface displacement modelling, and coal mine fire and subsidence modelling. The present thrust areas of the department include microwave remote sensing and hyperspectral image analysis, GNSS and seismic data analysis, glacial dynamics, planetary geology, spaceborne gravity and ground based gerophysical data analysis and engineering geological studies.

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. The DMS Department conducts PG Diploma and M.Tech. in RS and GIS applications in Natural Hazards and Disaster Management Studies with specialisation in Hydro-meteorology and Geological hazards. 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.

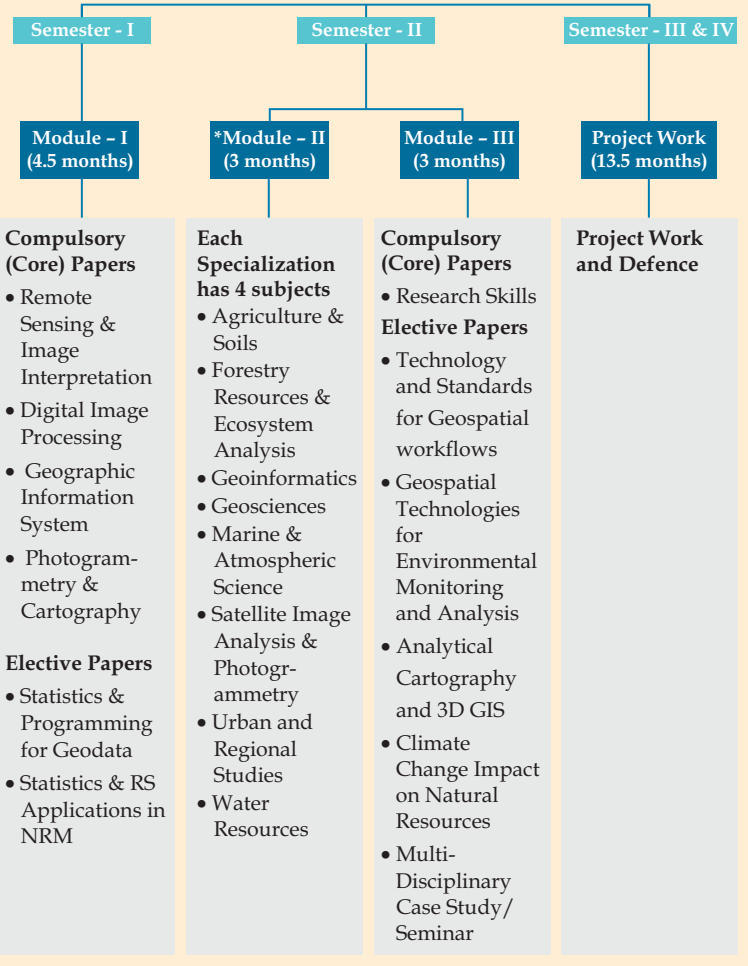
M.Tech. (RS&GIS)

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, 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 seminar out of the 60 topics offered from 9 specializations. During the course, a candidate can opt for one of the following 9 specializations-

- Agriculture and Soils
- Forest Resources & Ecosystem Analysis
- Geoinformatics
- Geosciences
- Marine & Atmospheric Sciences
- Natural Hazards & Disaster Risk Management
- 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. 27

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Akshita Tomar

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

Area of Interest:
Soils quality, Climate change, artificial intelligence in agriculture, Crop Phenology, Environmental Impact Assessment, Soil degradation assessment, Crop classification

Software Skills:
R, Python, ArcGIS, QGIS, ENVI, ERDAS Imagine, SNAP, GrADS

Thesis:
Assessing soil quality using remote sensing data employing machine learning techniques - a study in alluvial plains in India

Abstract:
Soil quality can make great influence on the regional distribution of vegetation, community biomass, and plant size, as well as the species composition. The evolution of technology has brought many changes in agriculture. Remote sensing & GIS has the capacity to map, monitor and predict soil property. Machine Learning is efficient techniques can be developed for solving complex soil data sets using machine learning to improve the effectiveness and accuracy of the Classification of large soil data sets.

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Anagha Murali

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

Area of Interest:
Lidar Remote Sensing, Lidar Data Processing, Machine Learning, Cartography

Software Skills:
Python, C, R, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Google Earth Engine AutoCAD, Revit

Thesis:
Coupling Space borne Range and Intensity Data for Enhanced Terrain Parameter Estimation and Feature Extraction

Abstract:
Spaceborne lidar satellites provide data with high vertical accuracy and hence is a beneficial data source in forestry, cryosphere and urban studies where vertical accuracy is a critical parameter. The study is aimed at coupling ICESat, ICESat-2 data and satellite images for improved estimation of terrain parameters like height and slope. Analyzing the potential of data integration in feature extraction is studied.

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Ankit Prakash

Qualifications:
M.Tech. in Remote Sensing & GIS
(Specialization: Forest Resources & Ecosystem Analysis)
B.Sc. Hons. (Forestry)

Areas of Interest:
Biomass assessment, SAR and LiDAR application in forestry, Natural resource management, Forest cover mapping and monitoring, Wildlife suitability mapping

Software Skills:
R, Python, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Google Earth Engine, PolSAR pro, MaxEnt

Thesis:
Estimation of Above Ground Biomass using SAR and LiDAR

Abstract:
Biomass is recognized as one of the most critical ranges of priority which directly or indirectly influence the atmosphere. The uncertainty that occur due to carbon emission from forest is considered as the biggest source responsible for climate change, hence forest biomass is an imperative forest characteristic which gives profitable input regarding the conservation of forest and adverse climate change, therefore it is important to monitor forest biomass which for a larger area is only possible through remote sensing. This study aims at utilizing space-borne SAR data and LiDAR data for developing a methodology for the estimation of above ground biomass.

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Ankur Sinha

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

Area of Interest:
Air pollution, Machine Learning & Data Science, WebGIS, 3D modelling, Application of Thermal and Microwave RS in urban applications, Urban Planning, Infrastructure and utilities, Metro Projects and Land acquisition for development projects

Software Skills:
Python, QGIS, ArcGIS, ENVI, ERDAS Imagine, Blender, AutoCAD, Google Earth Engine, PostgreSQL, City Engine

Thesis:
Long Term Trend of Aerosol Optical Depth (AOD) in Indian cities

Abstract:
Aerosols in particular consist of PM10 and PM2.5 which is known to be more fatal to human health. In this study trend of AOD for the time period of 2001-2020 is carried out and using trend, analysis is done to find major sources as well phenomenon that regulate aerosol concentrations in atmosphere is analyzed.

anushree.vandana@gmail.com

Anushree Jain

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

Area of Interest:
Atmospheric Studies, Climate Change, Image Processing, Sensor Configurations, VLSI circuits and design

Software Skills:
Python, C++, MATLAB, VHDL, JAVA, QGIS, SNAP, SeaDAS, ERDAS Imagine, MySQL, Xilinx ISE, Quartus Prime, Keil, Arduino IDE, LabVIEW, ModelSim

Thesis:
Development and Analysis of AOD retrieval algorithm over land using OCEANSAT-2/OCM-2 data

Abstract:
Satellite retrieval of aerosol properties requires the decoupling of the aerosol components from the at-sensor signals. It becomes especially challenging to determine aerosol properties for land since surface reflectance has a major contribution to the signals reaching top of atmosphere. In this project a Physics based algorithm is developed using deep blue bands to retrieve AOD at 550nm. Various inputs are then analyzed for their sensitivity to the algorithm, and thorough analysis is done.

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Arpan Chaudhuri

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

Area of Interest:
Glacier Dynamics, Climate Change, GIS and Image Processing, Geomorphology, Sedimentology, Ore and Exploration Geology

Software Skills:
Python (Basic), ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, GrADS, CorelDRAW, ImageJ, Microsoft Office

Thesis:
Study of Spatio-temporal Variations of Surface Velocity of Glaciers in Western Himalaya from 2008 to 2020 and Its Implications

Abstract:
Surface velocity of glaciers deals with rate of ice discharge for that reason it contributes to the monitoring of mass balance of glaciers. Monitoring of glacier velocity over time can detect instability of glaciers which can be used to mitigate upcoming hazards. Glaciers of Himalayan Mountain range, show thinning and retreating pattern for last few decades. Remote Sensing techniques provide robust methods to model and monitor these inaccessible areas.

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Arunim Anand

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Urban & Regional Studies)
B.E. (Civil Engineering)

Area of Interest:

Climate Change Studies, Hydrological/Hydrodynamic Modelling, Surveying, UAV, Traffic Studies, Urban Growth Modelling, Urban Utility and Services Management, Statistics, Data Science

Software Skills:

Python, R, JavaScript, HTML, SQL, ArcGIS, QGIS, ENVI, ERDAS Imagine, SWMM, HEC-HMS, HEC-RAS, IDRISI, LPS, Grads, Maxent, SPSS, Tableau, AutoCAD, STAAD Pro, Microsoft Office

Thesis:

Impacts of urbanisation and extreme events on urban floods for a rapidly growing city

Abstract:

Increase in the frequency of urban floods in recent decades has posed huge challenges to the city administration and urban planners. Urban floods cause huge destruction and inconvenience ranging from traffic jams to severe property damage and result in cities being inundated for days. This study is an attempt to analyze the role of rapid urbanization and climate change in the occurrence of urban flood events along with estimating the hydrological outputs using SWMM and HEC-HMS. The study will help in understanding the flood risks in the city based on its hydrodynamic setup.

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Aryan Natwariya

Qualifications:

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

Area of Interest:

Atmospheric and Cloud Modelling, Satellite Image Processing and analysis, Surveying and Cartography, Meteorology, LiDAR, Atmospheric energy budget, Surface energy balance, Pollution studies, Urban Studies, Marine Sciences, Agriculture fires, Geospatial application for Natural Resource Management

Software Skills:

Python, R, FORTRAN, MATLAB, JavaScript/HTML/PHP, ArcGIS, QGIS, ERDAS Imagine, LPS, ENVI, SNAP, GrADS, OPAC, SBDART, Google Earth Engine, AWS/Google Cloud, Sigmaplot, SeaDas, Linux OS

Thesis:

Climatological variation of Aerosol Black Carbon and Radiative Forcing over South and East Asia

Abstract:

The study focuses on the impact of aerosol and black carbon on aerosol radiative forcing. The Spatio-temporal variability of aerosols and BC emissions is identified over the major cities of the region for a long term and the hotspot regions are identified using multi-satellite data. The RF is estimated using Radiative Transfer model over major cities in the region.

ashwini.ursd@gmail.com

Ashwini Dubey

Qualifications:

M.Tech in Remote Sensing & GIS
(Specialization: Urban & Regional Studies)
B. Plan. (Town Planning) SPA Delhi

Area of Interest:

Urban Data Management, Affordable & Rental Housing Policy, Mission Monitoring, Inter-departmental Data-Usage Model, Urban Climatology, 3D Modelling, Photography, Infographic Designing, Cooking and Road Trips

Software Skills:

Python, ArcGIS, QGIS, ERDAS Imagine, Blender, SNAP, In-Design, Google Sketchup, Photoshop, AutoCAD, MS Word, MS Excel, MS Power Point

Thesis:

Urban Climatic Map-An Application of Earth Observation Data & GIS

Abstract:

Cities are facing distinct climatic condition known as Urban Climate; anthropogenic activities along with persistent urbanization, a reason. Urban Climatic Map quantify impacts of anthropogenic & natural activities on city's climate; both positive and negative; which Urban Planning concepts in isolation are incompetent to resolve. Quantifying the impact on city's climate through UC Analysis Map, and proposing measures to minimize its effect through UC Recommendation Map; the study tries to mitigate the effects through passive cooling and moving a step closer to sustainability.

bandatejaswari@gmail.com

Banda Tejeswari

Qualifications:

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

Areas of Interest:

Application of Information systems and automation processes for Urban, Regional and Rural Development; Machine/Deep learning-oriented Feature extraction

Software Skills:

Python, R studio, ArcGIS Pro, QGIS, ERDAS Imagine, ENVI, eCognition, AutoCAD 3D, SNAP

Thesis:

Spatial and Vertical Building Change Detection for Urban Application

Abstract:

Urban areas are highly dynamic where landscape changes occur in different frequencies. Buildings form the basic unit of urban fabric where major changes take place in short intervals of time. Inclusion of the building details in map making is significant for micro sectoral studies. Since height and location are important attributes of the building, the current study focus on change in building features of an urban area spatially and vertically. This study adopts a new methodology to extract building features in urban areas in Indian context.

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Bibin K. Augastian

Qualifications:

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

Area of Interest:

Fog analysis, Sedimentology, Climate Change Studies, Atmospheric and Cloud Modelling, Surveying and Cartography, Meteorology, Atmospheric energy budget, Pollution studies, oceanography, Agriculture fires, Geospatial application for Natural Resource Management

Software Skills:

Python, R, FORTRAN, MATLAB, ArcGIS, QGIS, ERDAS Imagine, LPS, ENVI, SNAP, GrADS, Google Earth Engine, AWS, Adobe – Photoshop, CorelDRAW, Sigmaplot. Panoply

Thesis:

Space based fog estimation over Indian region

Abstract:

The project aims to derive area-wide fog information for the Indo-Gangetic Plain region using a novel hybrid fog detection algorithm based on a combination of SEVIRI and METAR data. The method is based on a random forest (RF) machine learning model that will be trained with cloud base altitude (CBA) observations from both satellite and ground truth data.

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Biswarup Bhattacharya

Qualifications:

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

Area of Interest:

Ocean Biogeochemistry, Climate modelling, Ocean plastic pollution, Climate Change Studies, Ocean-atmospheric interaction, Air Pollution studies, Satellite Image Processing and analysis, Meteorology

Software Skills:

MATLAB, NCL, Ferret, Python, R, ArcGIS, QGIS, ERDAS Imagine, LPS, ENVI, SNAP, GrADS, Blender, Google Earth Engine

Thesis:

Spatial and temporal variability of pCO_2 over the Indian Ocean using model and satellite data

Abstract:

The Indian Ocean (IO) shows unique physical and biogeochemical properties caused by the semi-annually reversing atmospheric and oceanic circulation. This study, analyses the seasonal cycle of partial pressure of CO_2 (pCO_2) over Indian Ocean, investigates the processes which are regulating the pCO_2 variability over the region. It uses the buoy, Satellite, and CMIP6 (The Coupled Model Intercomparison Project 6) data to compute the pCO_2.

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Brij Mohan Bohra

Qualifications:

M.Tech. in Remote sensing & GIS
(Specialization: Water Resources)
B.Tech. (Civil Engineering)

Areas of Interest:

Cryospheric Studies, Machine learning, Data Science, Microwave Remote Sensing, SAR Polarimetry, SAR interferometry, Hydrological modelling, Watershed Management, Deep Learning

Software Skills:

Python, R, Google Earth Engine, ArcGIS, QGIS, SNAP, PolSAR PRO, ILWIS, ERDAS Imagine, HEC-RAS, HEC-HMS, BRAT, AutoCAD, SQL, SWAT, PyRate

Thesis:

Evaluation of space-borne SAR and air-borne SAR using snow depth and SWE estimation

Abstract:

This study is focused on the snow depth and snow water equivalent estimation using space-borne ALOS PALSAR-2 data and air-borne UAV SAR data for Grand mesa region, Colorado, USA and Manali, Himachal, India. Snow, which is the second largest component of the cryosphere in area after frozen ground, contributes to ¾ global terrestrial freshwater resources. These snow parameters are estimated through Co-polar difference method and PolInSAR method which is being validated by SnowEx mission dataset of Grand mesa region and instrument installed by IIRS in Manali.

charanchaganti@gmail.com

Chaganti Charan

Qualifications:

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

Area of Interest:

SAR data processing (InSAR & DInSAR), Image Processing, Machine Learning, Data Science, Fault Slip Modeling, Inversion Modeling

Software Skills:

Python, R, HTML, CSS, JavaScript, SQL, Google Earth Engine, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, GMT, GMTSAR, GG-MATLAB, GAMIT/GLOBK

Thesis:

Dilatational and Shear Strain Modelling with respect to Himalayan earthquakes using GNSS and SAR data

Abstract:

The Great Gorkha Earthquake, 2015 in Nepal (Mw = 7.8), helped us interprete of several aspects of major Himalayan earthquakes but fell short in the knowledge gap between the major earthquakes. This study helps in bridging the gap using advanced geo-spatial technologies synthesizing the current knowledge on the recent findings of seismic studies in Himalayan region. We propose to integrate both GNSS and SAR data for conducting crustal deformation studies with better accuracy using inversion and estimate the fault slip rate.

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Chhaya Sharma

Qualifications:

M.Tech in Remote Sensing & GIS
(Specialization: Geoinformatics)
B.Tech. (Electronics and Instrumentation)

Area of Interest:

WebGIS, Machine Learning, Remote Sensing data analysis using WCPS, Geoprocessing, Digital Image Processing, Data Science, Networking, Statistical Learning, Cloud Computing, Web Development

Software Skills:

Python, R, C, C++, SQL, WCPS, PHP, HTML, JavaScript, JQuery, Ajax, Bootstrap, AngularJS, NodeJS, Google Earth Engine, ArcGIS, QGIS, ERDAS Imagine, MySQL, PostgreSQL, PHPMYADMIN, Open Data Kit, Geoserver, Rasdaman, LAMP Server, Google SketchUp, Linux (Ubuntu)

Thesis:

Development of Open Source Repository of WCPS Codes for Remote sensing Data Analysis Methods

Abstract:

This Project Involves the development of codes in WCPS for some Remote Sensing Data Analysis methods, test codes on server and integrate all the codes into a open source repository and we will get all codes at one place. This project will make whole process easier and time saving. As analysis will be online, there is no issue of space due to large volume of data. It involves server side data processing which have many advantages.

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Chintan Bimal Maniyar

Qualifications:

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

Area of Interest:

AI aided Remote Sensing for Environment Conservation, Machine/Deep learning, Satellite Image Processing, Computer Vision, Automatic Feature Extraction

Software Skills:

Python, C/C++, JAVA, CUDA, JavaScript, PHP, fastai, PyTorch, Tensorflow, Keras, GDAL, Google Cloud Platform, SNAP, Google Earth Engine, QGIS, ERDAS, ENVI, eCognition, MySQL

Thesis:

Automatic Multiscale Feature Extraction from High Resolution Remotely Sensed Imagery using Object-based Convolutional Neural Networks

Abstract:

A U-Net with encoder of ResNet and dynamic decoder is designed to extract features from high resolution aerial/satellite imagery. PixelShuffle is used to learn multiscale patterns. Various object based guided filters and information extractors are evaluated to capture spectral contextual and semantic information from RGB images. Best object extraction approach is integrated with the proposed model. Moreover, Cyclical learning is implemented to optimize training time and resource (GPU) utilization.

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Debangshu Banerjee

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Marine and Atmospheric Sciences)
M.A./ M.Sc. (Geography)
Graduate Diploma (Remote Sensing and GIS)

Area of Interest:

Cryospheric Sciences (Snow, Glaciers, Ice-Sheet, Sea-Ice, Snowfall, Permafrost), Numerical Weather Prediction & Forecasting, Ocean & Climate Modelling, Polar Meteorology, Glacial Microclimate, InSAR, DInSAR & PolSAR applications, 3D GIS, Geostatistics

Software Skills:

MATLAB, Python, R, GDAL, WRF-ARW, Google Earth Engine, ArcGIS Pro, QGIS, ERDAS Imagine, ENVI, SNAP, PolSAR pro, PCI Geomatica, AutoCAD Map 3D, GrADS, SWAT+, BRAT, Sketch Up, Blender, SPSS, Fragstats, STATA, Google Data Studio, OriginLab, Geoserver

Thesis:

Seasonal investigation of the precipitation dynamics over the North-West Himalayan region

Abstract:

Incorporating the physiographic orientation, geophysical aspects, seasonal wind circulation pattern and fine scale cloud microphysical dynamics, the study will investigate the seasonal precipitation forms and patterns occurring over NWH illustrating the micro-meteorological conditions through a combined use of Numerical modelling and high resolution satellite & reanalysis datasets.

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Dhanush Ramasubramanian

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Forest Resources & Ecosystem Analysis)
B.E (Environmental Engineering)

Area of Interest:

Climate Change Studies, Forest Ecosystem Analysis, Forest Hydrology, Environmental Modelling, Satellite Image Processing and analysis, Surveying and Cartography, Meteorology, Deep Learning, Cooking, Trekking & Mountaineering, Teaching and Natural Farming

Software Skills:

Python, R, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Blender, Google Earth Engine, LaTeX

Thesis:

Assessing environmental determinants of vegetation patterns in cold-arid transition zone of Western Himalaya using machine learning

Abstract:

The species–environment relationship and the relationship between vegetation patterns across the gradient of environmental factors establishes links between them. The current study aims to identify the underlying environmental factors that govern the vegetation pattern along this landscape gradient and to understand their relationship and establish the defining factors or vegetation in the greater to cold arid transition zone of the Western Himalayas.

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Dyvavani Krishna K

Qualifications:

M. Tech. in Remote Sensing and GIS
(Specialization: Forest Resources & Ecosystem Analysis)
M.Sc. (Biodiversity Studies and Management)
B.Sc. (Chemistry, Botany and Zoology)

Area of Interest:

Biodiversity conservation and Wildlife Management, Protected Area Network planning and corridor management, Landscape ecology, Satellite telemetry and radio tracking, Population Biology and habitat assessment, Climate change studies, Ecosystem analysis, Fire ecology, Restoration ecology

Software Skills:

R, C, JavaScript, R Studio, HTML, ArcGIS, QGIS, ERDAS Imagine, eCognition, SPSS, PAST, DISTANCE, 3D FOREST, MaxENT, Fragstats, GrADS, Google Earth Engine, Google Earth Pro, MS Office Suite

Thesis:

Understanding ecosystem fluxes using semi-empirical model-PRELES

Abstract:

The basic ecosystem fluxes such as Gross Primary Productivity and Evapotranspiration drive the carbon alterations in the atmosphere and lead to future climate scenarios. The semi-empirical model-PRELES will estimate accurate flux values for Indian monsoon conditions in moist deciduous Sal forests with minimum meteorological and radiance input variables.

lawrenceeffa@gmail.com

Effa Lawrence

Qualifications:

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

Area of Interest:

Geospatial Workflow Management Systems, Geospatial Big data Analytics, NLP, 3D Modelling & Visualization, Geospatial Data Science

Software Skills:

R, Python, QGIS, ArcGIS, ENVI, ERDAS Imagine, ElasticSearch, Knime, SNAP, Geoda, Netlogo, Google Earth Engine, PostgreSQL, Geoserver

Thesis:

A generic framework for decision-makers to perform Self-service Exploratory Analysis using Geosocial Big data

Abstract:

The thesis involves comparing & evaluating the available big data tools/algorithms for self-service exploratory analysis. It proposes a big data analytics framework for performing sentiment analysis using Twitter data (both historical and stream) for a user-defined theme. The work aims at suggesting a generic solution to the naive decision makers by developing a no-code and interactive self-service interface to perform exploratory analysis using geosocial big data.

hrshlmittal306@gmail.com

Harshal Mittal

Qualifications:

M. Tech. in Remote Sensing & GIS
(Specialization: Satellite Image Analysis & Photogrammetry)
B. Tech. in Computer Science Engineering

Area of Interest:

Computer-Vision, Image Processing, SAR Image Exploitation, Inverse SAR/SAL, Machine/ Deep/ Statistical-Learning, Genetic Algorithm, Automatic Moving Target Detection

Software Skills:

C/C++, Python, JAVA, MATLAB, GDAL, SNAPPY, Linux OS, R, JavaScript, LaTeX, SQL, QGIS, ERDAS Imagine, ENVI, SNAP

Thesis:

Automatic Ship Detection using Dual Polarimetry SAR Satellite Imagery

Abstract:

SAR is the prominent data source for the surveillance of various maritime activities and its applications such as Ship Detection as it can generate the imagery 24x7, without any restrictions on weather conditions. In this study, an advanced adaptive threshold Bilateral CFAR kernel has been developed to reduce the false alarms with the usage of dual polarized channels. For good geometrical accuracy, a methodology is developed to generate the land mask using a vector based approach to get the precise region of interest for the processing. Finally, the results are validated using the ROC curves.

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T Udaya Bhaskar Jayanth

Qualifications:

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

Areas of Interest:

Crop Modelling, Crop Inventory, Crop Monitoring, Biophysical Parameter retrieval, Sustainable Agriculture, Microwave Remote Sensing, Climate change, Soil Science, Agrometeorology

Software Skills:

Python, R Studio, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, TIMESAT, SPSS, Google Earth Engine

Thesis:

Development of Yield Modelling Techniques for Rabi Pulses using Multi-Temporal Satellite Data

Abstract:

Crop yield estimation is quite helpful in policymaking. In the occurrence of floods, drought, pest, and diseases directly lead to a loss in crop yield, which affect the farmers financially as well as socially. The primary objective of the study is the evaluation of a weighted agro spectral yield model at regional scale using remote sensing derived inputs to predict the crop yield of pulses. Synchronised use of optical and SAR satellite data to define crop phenology as well as the crop conditioning ultimately, in crop yield modelling using phenological based crop yield model.

joshalbansal22@gmail.com

Joshal Kumar Bansal

Qualifications:

M.Tech. in Remote sensing & GIS
(Specialization: Water Resources)
B.Tech. (Civil Engineering)

Area of Interest:

Computational Hydrology, Integrated Flood Risk Assessment, Climate Change Studies, Reservoir Sedimentation studies, Altimetry

Software Skills:

Python, Google Earth Engine, ArcGIS, QGIS, ILWIS, ERDAS Imagine, HEC-RAS, HEC-HMS, BRAT, MIKE 11

Thesis:

Hydrodynamic Modelling and satellite altimetry-based establishment of virtual gauging network in flood prone river basin

Abstract:

A strive has been made to investigate the capacity and brought value of altimeter measurements for multi-site validation of the HD model and constructed rating curves (RCs). The availability of RCs at virtual stations allows the expansion of the gauging network along the River, thus enabling the estimation of the discharge at additional locations and the potential evaluation of the contributions of lateral tributaries could be evaluated in future work.

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Karan Sharma

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Forest Resources and Ecosystem Analysis)
B.Sc. (Forestry)

Area of Interest:

Phenology of Higher altitude, Machine Learning in biodiversity mapping, Time series EIA, Biodivesity conservation, Forest mapping and monitoring, Wildlife corridor mapping, Data Science

Software Skills:

Python, R, JavaScript, ArcGIS, QGIS, ERDAS Imagine, Google Earth Engine, SNAP, 3D Forest, eCognition, GrADS, MaxEnt, Fragstat, MS Office Suite

Thesis:

Deriving phenological metrices for high altitude vegetation in Western Himalaya using multi-sensor time series data and machine learning algorithms

Abstract:

It is evident from the recent studies that climate change negatively affecting the food security and life cycle. This study is an attempt to assess vegetation phenological patterns using multi-sensor and time-series remote sensing derived phenological metrices through various machine learning algorithm and establish the role of environmental variables on regulating phenological stages across the vegetation types in Sub-Alpine and Alpine region of Western Himalaya.

bhandarikonica@gmail.com

Konica Bhandari

Qualifications:

M.Tech. in Remote Sensing and GIS
(Specialization: Forest Resources and Ecosystem Analysis)
B.Sc. (Forestry)

Area of Interest:

Climate change, Forest ecology and biodiversity, Forest mapping and monitoring, Machine Learning, Deep learning, SAR remote sensing, Application of LiDAR remote sensing in forestry

Software Skills:

Python, R, JavaScript, ArcGIS, QGIS, ENVI, ERDAS Imagine, Google Earth Engine, 3D Forest , SNAP

Thesis:

Synergistic use of Multi-Sensor Earth Observation Data for Forest Biophysical Parameters Estimation using Machine Learning Algorithm

Abstract:

Forest Biophysical variables have a strong hold over the energy fluxes between vegetation and atmosphere. Incorporating these parameters will lead to better understanding of forest biomass and will reduce uncertainties with carbon exchange in the ecosystem. It is anticipated that synergistic use of LiDAR, SAR, and Optical EO data will provide accurate estimates of forest biophysical parameters. The study explores the potential of space borne LiDAR data from GEDI and ICESAT-2 combined with optical and SAR data sets for estimating biophysical parameters in Indian forest.

mani.joe.thoppil@gmail.com

Mani Joe

Qualifications:

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

Areas of Interest:

Planetary Geology, Isotope Geochemistry, Hyperspectral Remote Sensing, Mineral Exploration, Metamorphic & Igneous Petrology, Ore Geology

Software Skills:

R Studio, ArcGIS, ENVI, SNAP, ERDAS Imagine, LPS, QGIS, Microsoft Office, LaTeX, GrADS

Thesis:

Target Mineral Detection and Imaging Spectroscopy in Mineralized Belts of Jahazpur Area, Rajasthan

Abstract:

Mineral deposits are the wealth of the nation, and so mineral exploration is an important task carried out by geologists. A systematic investigation and prospecting are necessary to explore the potential area for mineral mapping. Thus, hyperspectral remote sensing plays a crucial part in mineral exploration. It is able to provide laboratory quality spectral which is crucial for the identification of minerals in the altered zones and rock-forming minerals. Combining geochemical data, gravity data, fault map and mineral map derived from hyperspectral data we can make mineral models of high accuracy, which may lead to discovery of previously undiscovered mineral deposits.

nhamde1998@gmail.com

Narayan Shankar Hamde

Qualifications:

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

Area of Interest:

Remote Sensing, GIS, Urban Growth Modelling, Urban Infrastructure

Software Skills:

Python, HTML, ArcGIS, QGIS, ERDAS Imagine, Google Earth Engine, Fragstats, Blender, TerrSet

Thesis:

Studying Urban Growth Dynamics in Indo-Gangetic Plains

Abstract:

India, being a developing country, has experienced a rapid urbanization over the few decades. Environmental quality has also been on the rapid pace of degradation due to rapid growth in urban population and increased human footprint on the use of natural non-renewable resources. The study aims to provide the understanding of the urban pattern, pace and form which can help in quantifying the impact of urban expansion by computing complexity, compactness of urban areas. The study attempts different methodologies in analysing the available data.

pm796makar@gmail.com

Pragnya Makar

Qualifications:

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

Area of Interest:

Numerical Weather Prediction, Meteorology, Tropical Cyclones, Weather forecasting, Climate Change

Software Skills:

R Studio, Python, C, C++, Java, HTML, JavaScript, PHP, LaTeX, ArcGIS, QGIS, ERDAS Imagine, ENVI, PostgreSQL, GrADS, WRF-ARW

Thesis:

Impact of Satellite Data Assimilation on Simulation of Tropical Cyclones using NWP Model

Abstract:

The objective of the study is assimilation of Advanced Microwave Sounding Unit-A (AMSU-A) and Microwave Humidity Sounder (MHS) data in the WRF model and analysing the impact of assimilation of AMSU-A and MHS data on simulation of Super Cyclonic Storm Amphan and Severe Cyclonic Storm Nisarga, which formed over the North Indian Ocean in the year 2020. Further, obtain improved track, wind speed, rain rate and landfall position of tropical cyclone over the North Indian Ocean.

prasadrankhambe1997@gmail.com

Prasad Sanjay Rankhambe

Qualifications:

M.Tech. in Remote Sensing & GIS
(Specialization: Agriculture and Soils)
B.Tech. (Agricultural Engineering)

Area of Interest:

Hydrological and Hydrodynamic Modelling, Reservoir Sedimentation Studies. Effect of Climate Change on Agriculture and Allied Activities, Effect of climate change in agricultural yield, Water Quality analysis and Data Processing

Software Skills:

ENVI, ArcGIS, QGIS, SNAP, ERDAS Imagine, ILWIS, SWAT, InVEST, Google Earth Engine, AutoCAD, MS Office Suite

Thesis:

Geospatial Modelling in Assessing Soil-Hydrological Ecosystem Services of Watershed for Conservation Planning

Abstract:

Soil is a basis of survival as it supports and nourishes all the life on earth by playing a crucial role in ecosystem functioning. The objective of the study is modeling to quantify the Watershed Ecosystem Services or water yield, water quality (sediment retention) and soil carbon stock (as climate regulator) in the catchment.

priyankaadas300@gmail.com

Priyanka Das

Qualifications:

M.Tech in Remote Sensing & GIS
(Specialization: Geoinformatics)
B.Tech. (Information Technology)

Area of Interest:

Machine/Deep Learning, Data Science, SAR Image Processing, 3D Modelling and Visualization

Software Skills:

Python, R Studio, C, ArcGIS Pro, QGIS, Blender, ERDAS Imagine, HTML, Google Earth Engine

Thesis:

Industrial Land Use Identification and Its Impact on Air Pollution

Abstract:

The thesis explores the problem of automatic detection of industrial land uses from satellite images using deep learning techniques. The estimation of the quantity of trace gases are also calculated from the industrial land use sources. Identification of the sources and quantification of the industrial air pollutants are done.

dalalprohelika@gmail.com

Prohelika Dalal

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

Area of Interest:
Land deformation studies (Landslide, Land subsidence), Geohazards and Geodynamics, InSAR and DInSAR applications, Flood and drainage basin dynamics

Software Skills:
R, ArcGIS, QGIS, ERDAS Imagine, GMTSAR, SNAP, ENVI, SARSCAPE, Corel Draw, Microsoft Office Suite, Google Earth Engine

Thesis:
Study of Land Surface Deformations due to Aquifer Compaction by Advanced DInSAR techniques

Abstract:
PSInSAR (Persistent Scattering Interferometry) and SBAS (Small baseline Subset approach) are the two advanced powerful Interferometric technique which has been providing the most precise measurements along with a time series analysis for land deformation studies in the recent times. Thus, incorporating the significance and feasibility of these techniques the current study will extensively focus over groundwater exploiation and aquifer system compaction induced land subsidence in Kolkata and its surroundings region.

ravik2.paschim@gmail.com

Ravi Kant

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

Area of Interest:
GNSS, Atmospheric Parameters, Remote Sensing& GIS Applications, Data Science, Machine Learning, 3D Modelling & Visualization

Software Skills:
Python, MATLAB, Blender, Netlogo, Google Earth Engine, PostgreSQL, Geoserver, QGIS, ArcGIS, ENVI, ERDAS Imagine, SNAP

Thesis:
A study on Retrieval and variability of Precipitable water vapour using GPS observations over North Western Himalayan Region

Abstract:
The present work proposed to derive atmospheric water vapour using GPS data retrieved from receivers located in North Western Himalayan Region. A detailed study on water vapour and its impact in the atmosphere will be carried out. Continuous PWV output which will be useful for various atmospheric analysis over the region.

satyajeetsahu97@gmail.com

Satyajeet Sahu

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

Area of Interest:
Climate Change Studies, Drought Monitoring and Assessment, Agro-Meteorology, Soil and Water Conservation Engineering, Hydrological and Hydrodynamic Modelling, Integrated Watershed Management, Environmental Impact Assessment, Disaster Management, Water Quality Analysis, Cryosphere Studies

Software Skills:
Python, R, JavaScript/HTML/PHP, ArcGIS, QGIS, ERDAS Imagine, ILWIS, ENVI, SNAP, BRAT, VIC, SWAT, GrADS, HEC-HMS, HEC-RAS, EPA-SWMM, EPA-NET, WinSRM, Google Earth Engine, AWS, Origin, SigmaPlot, AutoCAD, Blender

Thesis:
Quantifying the Impact of Meteorological Drought on the River Basin

Abstract:
The study aims at quantifying the drought impact on the Ganga and Godavari river basin using statistical and modelling techniques for better understanding of the hydrological behaviour considering various drought factors. It will also focus towards deriving an inter-relationship between meteorological drought and hydrological drought for the river basin.

sehajpunjabi@gmail.com

Sehajpal Singh

Qualifications:

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

Area of Interest:

Planetary Sciences, Climate Change Studies, Cryospheric Studies, Water Quality analysis and Data processing, Hydrological and Hydrodynamic Modelling, Reservoir Sedimentation Studies

Software Skills:

Python, C, R, SQL, HTML, ISIS, ENVI, JMARS, ArcGIS, QGIS, SNAP, ERDAS Imagine, Rolta Geomatica, ILWIS, BRAT, GrADS, SWAT, HEC-RAS, HEC-HMS, Google Earth Engine.

Thesis:

Spatial-Temporal Dynamics of Polar Layer deposits and detection of Sub-surface water ice in mid-latitude region of Mars

Abstract:

The red planet may hold the key for bright new future of humanity. This research work aims to observe and study the seasonal and inter-annual trends of the polar ice over parts of NLPDs of Mars and quantify the seasonal cap recession. Hyperspectral data is a boon to differentiate between dry and water ice signatures. Additionally, RADAR sounding technology has been used to hunt for potential reservoirs of water-ice in the mid-latitude region.

shivanikalra1996@gmail.com

Shivani Kalra

Qualifications:

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

Area of Interest:

Crop modelling, Climate Change, Agro-meteorology, Precision Agriculture, Sustainable Agriculture, Surface energy balance studies, Light Use Efficiency model Artificial Intelligence in agriculture

Software Skills:

R, ArcGIS, ERDAS Imagine, ENVI, ILWIS, TIMESAT, SNAP, Eddy Pro, Google Earth Engine, QGIS, PC200W

Thesis:

Carbon Flux Monitoring over dominant Agro-Ecosystems by integrating Multi-Sensor Satellite and Flux-tower data into Efficiency based Models

Abstract:

Satellite remote sensing provides consistent and systematic observations of characterization of vegetation structure and estimation of Net Primary Productivity. Remotely sensed data is used in combination with flux data in order to estimate C fluxes over the area. Spectral vegetation indices derived from the satellite data is combined with EC measurements to estimate C fluxes outside of the tower footprint.

souravisaha1997@gmail.com

Souravi Saha

Qualifications:

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

Area of Interest:

Crop Inventory, Agro-Meteorology, Rural Development, Yield Estimation, Nutrient Management, Crop Condition Assessment, Drones in Agriculture

Software Skills:

JAVA, R, Python, Google Earth Engine, ArcGIS, QGIS, SNAP, ENVI, ERDAS Imagine, ILWIS, GrADS

Thesis:

Orchard Assessment using Time Series Multi-sensor data

Abstract:

This research will help us to understand how well mango orchards can be evaluated using both SAR and optical data. Mango orchards are classified based on age using Machine Learning techniques, followed by development of relationship between remote sensing data with orchard biophysical parameters. The potential of multi-temporal data is utilised for phenological studies by comparing with BBCH scale

srishti.iirsisro@gmail.com

Srishti Pandey

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

Area of Interest:
Water Resource Management, Flood Studies, Discharge Measurement, Data Science, Satellite Altimetry, Building Information Modelling, Construction Management

Software Skills:
Python, C++, SNAP, BRAT, ArcGIS, QGIS, ERDAS Imagine, ILWIS, HEC-RAS, HEC-HMS, Google Earth Engine, AutoCAD, STAAD Pro, Revit Architecture, MS Office

Thesis:
Multi-sensor remote sensing approach to river discharge estimation

Abstract:
Floods have for long affected several aspects of the living world. Understanding floods remains a challenging task in areas with scarce data. This study aims at estimating river discharge using multiple sensor data, attempting to remove the data gap while generating dense water level time series.

M.Sc. in Geoinformatics

The Master of Science (M.Sc.) in Geo-information Science and Earth Observation (specialisation/domain: Geoinformatics) is offered within the framework of Joint Education Programme (JEP) of the Indian Institute of Remote Sensing (IIRS) and the Faculty of Geo-information Science and Earth Observation (ITC) of the University of Twente (UT), The Netherlands.

The course is of 2 years duration having eight quartiles. Students follow part of the course at IIRS and a part at the Faculty ITC, The Netherlands. Upon successful completion of the course students receive a Master's degree from UT-ITC. The UT-ITC degree has the name 'Master of Science degree in Geo-Information Science and Earth Observation'. The broad structure of the course is:

Module		Duration	Module Topic	Location
1	Quartile 1: Core Modules	Geo-Information	(GI) Science and Earth Observation (EO): A Systems Based Approach	IIRS
2		3 weeks	GI Science and Modelling	
3		3 weeks	Earth Observation	
4		3 weeks	System Earth, Users and Data Integration	
			Academic Skills (Runs parallel during the block)	
			Catch-up Week/ Re-Sit Examination	
5	Quartile 2: Modules	3 weeks	Scientific Geocomputing	IIRS
			Winter Break	
6		6 weeks	Acquisition and Exploration of Geospatial Data	
7			**Academic Skills (Runs parallel during the block**	
			Break/Re-Sit Examination	
8	Quartile 3: Modules & Elective	4 weeks	Extraction, Analysis and Dissemination of Geospatial Information	IIRS
9		3 weeks	Elective course	
10			**Academic Skills (Runs parallel during the block)**	
			Break/Re-Sit Examination	
11	Quartile 4: Modules & Elective	3 weeks	Global Challenges, Local Action	IIRS
12		3 weeks	Elective course	
13			**Academic Skills (Runs parallel during the block)**	
			Summer Break/Re-Sit Examination	
14	Quartile 5: Elective(s)/ Internship & M.Sc. Research	18 weeks	Elective course	ITC
15			Elective course/Internship	
16			M.Sc. research proposal writing and defence	
			Break/Re-Sit Examination	
17	Quartile 6&7: Elective/ Internship/ M.Sc. Research	12 weeks	Elective course/Internship	ITC & IIRS
18			M.Sc. research	
19	Quartile 8	25 weeks	M.Sc. research	IIRS
20			Submission and Thesis Defence	

akshatrawat2641996@gmail.com

Akshat Rawat

Qualification:
M.Sc. in Geo-information Science & Earth Observation
(Specialization: Geoinformatics).
B.Tech in Electronics

Area of Interest:
PolInSAR, PolSAR, InSAR, Forest heights, Forest fires, Spatial Analysis, Satellite components

Software Skills:
ArcGIS, QGIS, ERDAS Imagine, PolSARpro, SNAP, Python, R, DBMS, SQL and MATLAB

Thesis:
Multi-frequency SAR data-based PolInSAR inversion modeling for forest height retrieval

Abstract:
Being one of the biophysical parameters, forest height is a useful component in estimating the Above Ground Biomass. SAR plays an important role in estimating forest heights using inversion models such as the Random Volume over Ground (RVoG) model. PolInSAR has shown the most accurate results for forest heights obtained in earlier studies. The study aims at developing a new idea to derive the forest height using data of different frequencies.

awinash.singhkns27@gmail.com

Awinash Singh

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

Area of Interest:
PolSAR, PolInSAR, InSAR, Planetary Science, Image Analysis

Software Skills:
Python, R, SQL, MATLAB, SNAP, PolSARPro, ArcGIS, ENVI, ERDAS Imagine

Thesis:
Polarimetric modeling of dual-frequency SAR data for characterization of the lunar surface

Abstract:
The prime focus of this study is to utilize the dual-frequency capability of the PolSAR data for characterizing the dielectric behavior of the regolith towards delineating the polar water ice and subsurface geomorphological feature like lava tube. It also includes identification of lava tubes, rilles, skylights and plausible identification of water ice associated with it.

jitendra.uwa@gmail.com

Jitendra Shankaraiah

Qualification:
M.Sc. in Geo-information Science & Earth Observation
(Specialization: Geoinformatics)
B.E. (Computer Science)

Area of Interest:
Machine learning, Big Geodata, Spatial data infrastructure, Image processing, Spatial statistics

Software Skills:
R, Python, Google Earth Engine, QGIS, ArcPy, ArcGIS API for JavaScript, ArcGIS StoryMaps

Thesis:
Time series analysis of opencast mining characteristics using remote sensing data on Google Earth Engine

Abstract:
Tool to monitor opencast mining characteristics in near real-time from time series satellite data from different sources on Google Earth Engine. It will be able to assess change in surface area of the mining areas, identify coal fire locations and areas of land subsidence, using machine learning techniques on multispectral data, image segmentation techniques and differential SAR interferometry.

megh097@gmail.com

Megha Sood

Qualification:
M.Sc. in Geoinformation Science & Earth Observation
(Specialization: Geoinformatics)
B.Tech. in Computer Science & Engineering

Area of Interest:
RS and GIS applications, Data Science, Deep Learning, Crop Modelling, Image Processing, Web GIS, LULC mapping

Software Skills:
Python, ArcGIS (Desktop and online), ArcPy, ERDAS Imagine, QGIS, Postgre SQL, JavaScript, HTML/CSS, MySQL, ArcGIS Pro

Thesis:
Deep Learning for Image Time Series Analysis: Application to Crop Mapping.

Abstract:
This research explores the capabilities of deep learning algorithum such as CNN & hybrid-CNN incorporating LSTM using multi-temporal date of specific crop mapping when working with small fields. Heterogeneity with in a class in also studied and compared with fuzzy based MPCM classifier.

rajit23u@gmail.com

Rajit Bhat

Qualification:
M.Sc. in Geoinformation Science & Earth Observation
(Specialization: Geoinformatics)
B.E. in Civil Engineering

Area of Interest:
Geographical Information Processing and Geo-data Visualization in:
Logistics and Mobility: Connected and intelligent transportation systems
Urban sensing and analytics

Software Skills:
Programming Skills: Python and R Data Visualization and Communication: Tableau, D3.js, libraries in Python and R Statistics and Machine Learning: Familiarity with framework such as scikit-learn Experience with other Geo-spatial applications: ArcGIS Desktop, QGis, ERDAS Imagine

Thesis:
A Spatio-Temporal CLustering Algorithm for exploring movement patterns in large event data

Abstract:
Develop a novel clustering algorithm to understand the time-space behaviour of activity performed by study objects.

hooda.waris0507@gmail.com

Waris Hooda

Qualification:
Qualifications: M.Sc. in Geoinformation Science & Earth Observation
(Specialization: Geoinformatics)
B.E. in Computer Engineering

Area of Interest:
Climate Science, Urban Science, Data Science, Machine/Deep Learning, Computer Vision

Software Skills:
ArcGIS, QGIS, ERDAS Imagine, Python, R, C, C++, JavaScript, Mongodb, SQL, PostgreSQL and PostGIS, MATLAB

Thesis:
A three dimensional spatio-temporal view of major aerosol types over the Indian region

Abstract:
Study aims to present a comprehensive detailed 3-D view of aerosol types over the Indian Region, their diurnal variability across different seasons and trends over different zones within the study area. Also, few case based back-trajectory analysis will be done using HYSPLIT Model. The work is carried out using the CALIPSO satellite data.

PG Diploma in Geoinformatics

Post Graduate Diploma (PGD) in Geo-information Science and Earth Observation (specialisation: Geoinformatics) is offered within the framework of Joint Education Programme (JEP) of the Indian Institute of Remote Sensing (IIRS) and the Faculty of Geo-information Science and Earth Observation (ITC) of the University of Twente (UT), The Netherlands. Upon successful completion of the course, the participants receive the Postgraduate Diploma in "Geo-information Science and Earth Observation (Geoinformatics)" awarded jointly by the Faculty ITC/ University of Twente and IIRS.

The course is of one year duration having four quartiles. Students follow the course at IIRS. The broad structure is:

Quartile	Course	Duration
Q1	Core Academic Skills	9 weeks
Q2	Scientific Geocomputing Acquisition and Exploration of Geospatial Data Academic Skills	12 weeks
Q3	Extraction, Analysis and Dissemination of Geospatial Information Elective Course Academic Skills	9 weeks
Q4	Global Challenges, Local Action Individual Project, Report Writing, Evaluation Academic Skills	8 weeks

: Pr6111996@gmail.com

Preeti Bisht

Qualification:
PGD Geoinformatics
B.Sc. Hons. (Geology)
M.Sc. (Geology)

Area of Interest:
Web GIS, Health GIS, Spatial DBMS, Digital Image Processing, LULC Modelling, Hydrological Modelling, Machine Learning, GIS application in Meteorology and Natural Hazards, Forest Application.

Software Skills:
C, Python, ArcGIS, QGIS, GDAL, ERDAS Imagine, NetLogo

naufalahmedmh@gmail.com

Naufal Ahmed M H

Qualification:
PGD (Geoinformatics),
M.Tech (Urban & Regional Planning)
B.E. (Civil Engineering), GATE (Civil)

Area of Interest:
Urban Planning, Transportation Planning GIS, Hydrological Modelling, Remote Sensing, Rural planning, Infrastructure and Development Planning, Land Management, Urban Hazards & Disaster Management, Site Suitability Analysis, Data Mining, Wasteland Development Planning

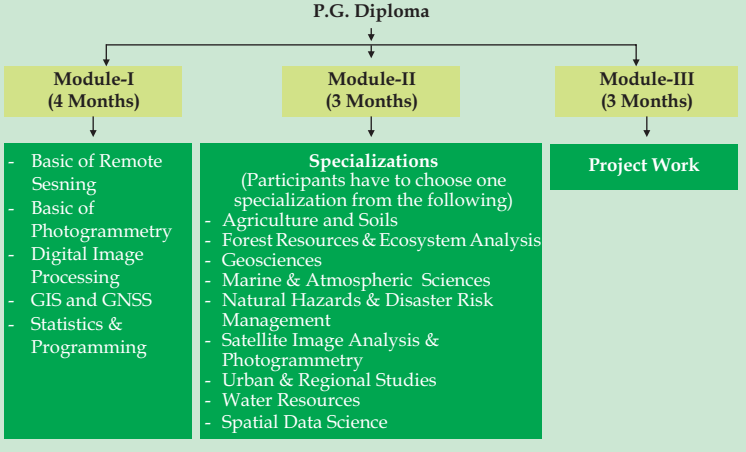
Software Skills:
Python, ArcGIS, QGIS, ERDAS Imagine, AutoCAD, Google SketchUp, STAAD Pro, Revit, Adobe Photoshop, Microsoft Office

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)
- Satellite Image Analysis & Photogrammetry
- Urban & Regional Studies
- Water Resources
- Spatial Data Science



***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 • Atmospheric 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
Satellite Image Analysis & Photogrammetry	• Emerging Sensors and Data 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 • Advanced Geospatial Technologies for Urban and Regional Studies
Water Resources	• Satellite Hydrology • Watershed Hydrology and Conservation Planning • Water Resources Development • Water Resources Planning Management
Spatial Data Science	• Big Data Analysis • Machine Learning • Programming for Geodata Processing • Spatial Modelling and Data Assimilation

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

akshsinha094@gmail.com

Akshay Singh

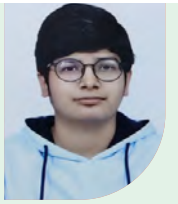
Qualification:
PGD in Remote Sensing & GIS
(Specialization: Marine & Atmospheric Science)
M.A. (Geography)
B.Sc. (Computer Science)
Area of Interest:
Application of Remote Sensing & GIS in Pollution Control, Climate Change ,Ocean Dynamics, Atmospheric Dynamics
Software Skills:
ERDAS Imagine, QGIS, SNAP ArcGIS, ENVI

bishtanand002@gmail.com

Anand Singh Bisht

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Forest Resources & Ecosystem Analysis)
B.Sc. (Forestry Hons.)
Area of Interest:
Application of Remote sensing and GIS in forestry and wildlife, Forest ecology, Biodiversity conservation, Wildlife management, Forest fire management, Climate change mitigation, Environment Impact Assessment.
Software Skills:
ArcGIS, FRAGSTATS, ERDAS Imagine, SNAP, ENVI, QGIS, Google Earth, Microsoft Office.

anjali9223@yahoo.com



Anjali Shukla

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Urban & Regional Studies)
B.Sc. (PCM)
M.Sc. (Geography)
UGC-NET/JRF
Area of Interest:
Urban and Regional Studies
Software Skills:
MS Office, ERDAS, SNAP, QGIS

ansvar93@gmail.com

Anshika Varshney

Qualifications:
PGD in Remote Sensing
(Specialization: Urban & Regional Studies)
B.Arch, PGDUPDL (Post Graduation Diploma in Urban Planning and Development)
Area of Interest:
Urban Analysis/Planning, Regional Planning, GIS, Remote Sensing, Mapping, 3d modelling, Urban Feature Extraction, Cartography, Graphic Work
Software Skills:
Python, AutoCAD, Adobe Photoshop, Adobe InDesign, Adobe Illustrator, ArcGIS, QGIS, ERDAS Imagine, SketchUP, 3ds Max, Microsoft Office

anshusiwach96@gmail.com

Anshu Siwach

Qualification:
PGD in Remote Sensing & GIS (Specialization: Agriculture and Soil)
M.A. (geography))
B.Sc. (Botany, Zoology, Chemistry)

Area of Interest :
Land use and Land Cover Mapping, Crop Inventory, Crop Phenology, Agroforestry and Urban Forestry, Soil Erosion Modeling, Environment Impact Assessment, Drought Assessment, Land Degradation, Risk Assessment & Disaster Management, Social Impact Assessment, Watershed Management, Climate Change, Forest Degradation Assessment, SAR data processing, Sustainable Agriculture, Artificial Intelligence in Agriculture, Forest Fire Mapping

Software Skills :
Python, R, SQL, ERDAS Imagine, QGIS, ArcGIS, MATLAB, SNAP, Microsoft Office, ENVI.

anushatatpati@gmail.com

Anusha Arun Tatpati

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis & Photogrammetry)
B.E. (Electronics & Telecommunications)

Area of Interest:
Planetary Photogrammetry, Planetary topographic Mapping, Digital GIS Mapping, Applications of LiDAR 3D sensing Technology.

Software Skills:
Excel, Arc-GIS Pro, Python, SQL, C, Auto-CAD, R, QGIS, ERDAS imagine, SNAP, Atlas

aswathieisha@gmail.com

Aswathi. V

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

Area of Interest:
Application of remote sensing in agriculture, Application of RS in meteorology and climate change, Crop production forecasting ,crop progress and assessment of crop damage, Identification of pest and disease infestation, Nutrient deficiency detection.

Software Skills:
ERDAS, ENVI, LIDAR, SNAP, PARBAT, Q GIS, MS OFFICE, PYTHON

aswinstat@gmail.com

Aswin Sivadas

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Spatial Data Science)
M.Sc. (Statistics)
B.Sc. (Mathematics)

Area of Interest:
Probability and Statistics, Geo-Statistics, Big Geospatial Data Visualization Classification & Analysis, Mathematical Modeling on RS & GIS Applications, Spatial Data Mining, Neural Networks, Artificial Intelligence, Machine Learning & Deep Learning.

Software Skills:
RStudio, Python, ITSM (Interactive Time Series Modelling), MATLAB, SPSS (Statistical Package for Social Sciences), Minitab, SAS (Statistical Analysis System), ERDAS Imagine, QGIS, ENVI, LaTex.

Bhashakara N. Nautiyal

Qualification:
PGD in Remote Sensing & GIS (Specialization: Water Resource)
M.Sc. (Geology)
B.Sc. (Geology, Physics, Maths)

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

Software Skills:
QGIS, ERDAS Imagine, SNAP, ENVI, ArcGIS, MATLAB, Python, C, R, Html, SQL

bidipta.ghosal@gmail.com

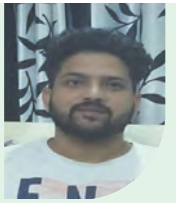
Bidipta Ghosal

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Forest Resources and Ecosystem Analysis)
M.Sc. (Environmental Science)
B.Sc. (Zoology, Physiology, Chemistry)

Area of Interest:
Application of Remote Sensing and GIS in Biodiversity Conservation and Management (with focus on Wildlife related studies), Forest Mapping and Monitoring, Wildlife Protection, Protected Area Planning, Agroforestry and Urban Forestry, Climate Change Studies, Human Ecology & Community Participation, Environmental Planning and Management.

Software Skills:
R, Python, ERDAS Imagine, SNAP, ENVI, ArcGIS, QGIS, Microsoft Office (Word, Excel, Power Point)

chitrakumar116@gmail.com



Chitra Kumar

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Forest Resources and Ecosystem Analysis)
M.Sc. (Environmental Sciences)
B.Sc.-Hons (Botany)

Area of Interest:
Climate Change, Application of SAR remote sensing in forestry, Forest Mapping & Monitoring, Forest Inventory, Forest Informatics and Restoration Ecology.

Software Skills:
Python, ArcGIS, ENVI, SNAP, QGIS, ERDAS Imagine, PolSAR pro, Microsoft Office, Google Earth Engine Platform, Microsoft Office, PC-ORD, Fargstat

devdinesh.dinesh@gmail.com

Dev Dinesh

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis & Photogrammetry)
B.Tech (Information Technology)
Diploma (Computer Science & Engineering)

Area of Interest:
Planetary Remote Sensing, Spatial Data Science (Machine/Deep Learning), Soft Computing (Fuzzy Algorithms, Mathematical Modelling, Scientific Computation on Geospatial Dataset), SAR & Hyperspectral Remote Sensing, Environment Impact Assessment, GNSS/IRNSS Study.

Software Skills:
C, C++, Python, R Studio, Javascript, Java/JSP, Netbean IDE, MATLAB, WEKA, PHP, SQL, GeoServer, QGIS, SNAP, ENVI, ArcGIS, ERDAS Imagine, eCognition, OriginPro, PostGreSQL, PolSAR Pro, GMT SAR, Blender, Cesium, Google Earth Engine, Google GNSS Analysis Tool, Google SketchUp.

devendrakumar.iirs@gmail.com

Devendra Kumar

Qualification:
PGD in Remote Sensing & GIS (Specialization: Spatial Data Science)
B. Tech (Electronics & Communication Engineering)

Area of Interest :
Spatial Data Analytics/Modelling, Geo-Data Analytics, Remote Sensing and GIS Applications, Machine/Deep Learning, Big Data, Project Planning and Management.

Software Skills :
Python, SQL, QGIS, SNAP, ENVI, ERDAS Imagine, MapInfo, Google Earth Engine

devendranagale@gmail.com

Devendra Shashikant Nagale

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

Area of Interest:
Application of Remote sensing and GIS in Groundwater studies, Watershed resources, Engineering geology, Site investigation, Disaster management, Environmental impact assessment, Planetary geology, Mineral and hydrocarbon exploration.

Software Skills:
Python, R, ArcGIS, QGIS, ERDAS imagine, ENVI, SNAP, Corel Draw, MS office

elkanna1996@gmail.com

Elka Siju

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazards and Disaster Risk Management)
M.Sc. (Applied Geology)
B.Sc. (Geology, Chemistry, Statistics)

Area of Interest:
Application of Remote Sensing and GIS in Natural hazards, Disaster Risk Management, Vulnerability assessment, Environmental Impact Assessment, Hazard Zonation Mapping, Drought assessment, Groundwater hydrology, Oceanography, Geomorphology, Impact of Climate change.

Software Skills:
ERDAS Imagine, ArcGIS, ENVI, QGIS, SNAP, LiDAR 360 Google Earth Pro, SedLog, GRADISTAT, Microsoft Office

sruthi6470@gmail.com

Gurram Gnanasruthi

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis & Photogrammetry)
B.Tech (Ggeoinformatics)

Area of Interest:
Optical remote sensing, Hyperspectral remote sensing, Digital Image Processing, GIS, Geomorphology, groundwater exploration techniques, photometric correction of Hyperspectral data, Mineral exploration on lunar surface using Hyperspectral data.

Software Skills:
C/C++, JAVA, SQL, ERDAS Imagine, ArcGIS, QGIS, ENVI, SNAP, GRASS.

meetjayneel@gmail.com

Jayneel Naimeshbhai Shah

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

Area of Interest:
Urban and Regional Planning, Transportation Planning, 3D City Modeling, GIS Applications

Software Skills:
ArcGIS, QGIS, ERDAS Imagine, ENVI, AutoCAD, ProgeCAD, Photoshop, Revit, Google Earth, Autoplotter, Quikgrid, Transit.

jwaalpa@gmail.com

Jwalpa Tyagi

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

Area of Interest:
Forest Mapping and Monitoring, Site Suitability for Species, Protected Area Planning, Agroforestry and Urban Forestry, Forest fire monitoring, Wildlife protection and Climate Change studies.

Software Skills:
ArcGIS, ERDAS Imagine, QGIS, SNAP, ENVI, Microsoft Office, Google Earth Engine

kamya.egeo@gmail.com

Kamya Diwedi

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

Area of Interest:
Natural Hazard mitigation, Landslide monitoring using SAR Interferometery, Coal quality assessment using Spectroradiometry

Software Skills:
Python, Java, SQL GIS Software, Arc GIS, ERDAS Imagine, ENVI, SNAP.

sreesaikarthik@gmail.com

Sree Sai Karthik Gangumalla

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

Area of Interest:
Application of RS and GIS in Mine Planning; Mineral, Ground water and Oil Exploration; Reconnaissance Survey; Geophysical exploration; Earthquake hazard assessment; Landslide modelling; Flood modelling; Coastline survey; Soil erosion assessment; Post-disaster management.

Software Skills:
ArcGIS, ERDAS IMAGE, ENVI, QGIS, SNAP, C, Microsoft Office.

battinikiranmayee04@gmail.com

B. Kiranmayee

Qualification:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis & Photogrammetry)
B.Tech (Geo-Informatics)

Area of Interest :
Digital Image Processing, Aerial and Satellite Photogrammetry, Remote sensing, GIS, GPS.

Software Skills :
ArcGIS, QGIS, ENVI, ERDAS, SNAP, Python.

megha26lucky@gmail.com

Megha Negi

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

Area of Interest:
Invasive Species Science, Conservation Biology, Restoration Ecology, Environmental Impact Assessment, Evolutionary Ecology, Forest & Grassland Ecology, Behavioral Ecology & Sociobiology, Theoretical Biology, Applied Ecology, Bioinformatics, Spatial Ecology, Paleoecology, Climate-Change Ecology

Software Skills:
Python, R, ERDAS Imagine, QGIS, SNAP, ArcGIS, ENVI, Google Earth Pro, Adobe Photoshop, Microsoft Office (Word, Excel, PowerPoint)

nimishajosewayanad@gmail.com

Nimisha Jose

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis & Photogrammetry)
M.Sc. (Physics)
B.Sc. (Physics)

Area of Interest:
Remote Sensing, Digital image processing, Microwave Remote sensing, Photogrammetry, GIS and Applications, LiDAR, Aerial and Satellite Photogrammetry

Software Skills:
ERDAS Imagine, QGIS, ArcGIS, ENVI, SNAP, Python, C, VB ATLAB, Microsoft Office (Word, Excel, Power Point)

pandepooja2298@gmail.com

Pooja Pande

Qualification:
PGD in Remote Sensing & GIS (Specialization: Spatial Data Science)
B.E. (Computer Science & Engineering)

Area of Interest:
Data Science, GIS application, Machine Learning, Image Analysis, Data Mining, Deep Learning, Remote Sensing.

Software Skills:
Python, R, PostgreSQl, ERDAS Imagine, ENVI, MATLAB

sharma.praveen3219@gmail.com

Praveen Sharma

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis & Photogrammetry)
M.Sc. (Physics)
B.Sc.- Hons (Physics)

Area of Interest:
Digital Image Processing, Application of Remote Sensing and GIS in Natural Resource Management and Climate Change, Environmental Impact Assessment, Forest Mapping and Monitoring.

Software Skills:
C, C++, Python, R, MATLAB, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, LaTeX

pmishra110195@gmail.com

Priyanka Mishra

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazard & Disaster Risk Management)
M.Sc. (Environmental Science)
B.Sc. (Physics, Chemistry & Biology)

Area of Interest:
Risk assessment and Disaster Management, Impact of climate change, Hazard Zonation Mapping and Application of RS and GIS in Hydrological Modelling

Software Skills:
R, ERDAS Imagine, ENVI, MATLAB, ArcGIS, QGIS, Python.

rucha.kanchan@gmail.com

Rucha Vivek Kanchan

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

Area of Interest:
Applications of Remote Sensing and GIS in Engineering geology, Structural geology, Mineral exploration, Hazard mitigation, Data Science

Software Skills:
Python, R, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, AutoCAD, MicroStation, FaultKin, Dips, STEREONET

singhsantosh7377@gmail.com

Santosh Kumar Singh

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

Area of Interest:
Crop inventory, Crop monitoring, Drought assessment, Soil moisture retrieval, Artificial intelligence in agriculture.

Software Skills:
SNAP, ENVI, ERDAS Imagine, ArcGIS, QGIS, R, Python

santoshhr159@gmail.com

Santosh H R

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazards & Disaster Risk Management)
B.E (Civil Engineering)

Area of Interest:
Disaster risk Mitigation and relief Management, Mapping of Flood-zone, Earth Quake zone, Forest fire, Climate change. Past/Future Hazard analysis and assessment, Environmental Impact Assessment, Forest area and Forest Cover mapping, Impact of Natural/manmade Disasters on Wildlife, Assessment of man-made structures(DAMS), Monitoring the Marine Disasters and Atmospheric changes, Use of GPS and TOTAL STATION for field operations, Surveying impact areas, Applications of RS and GIS in Disasters Monitoring and Analysis,

Software Skills:
ArcGIS, QGIS, SNAP, ERDAS Imagine, PYTHON, C, ENVI, AUTOCADD, REVIT ARCHITECTURE, ILWIS, Microsoft Office

shubhamkaushikece@gmail.com

Shubham Kaushik

Qualification:
PGD in Remote Sensing & GIS (Specialization: Satellite Image Analysis and Photogrammetry)
B.Tech (Electronics and Communication)

Area of Interest:
Digital Image Processing, Aircraft Remote Sensing & Navigation of Aircraft RS data using GNSS Systems, Emerging Sensors and Data Processing, Digital Photogrammetry & Mapping, Computation and Programming of Geospatial Data using Python, Antenna Design and Simulation and its usage in VLF, VHF, Data Science, Artificial Intelligence.

Software Skills:
ERDAS Imagine, SNAP, ENVI, Google Earth Engine (GEE), QGIS, ArcGIS, IDRISI, Python (SPYDER Tool),R Language, PolSARpro, SIEMENS Semantic Manager, SIEMENS Wincc Explorer, SIEMENS Wincc Flexible, C, C++, Ansoft HFSS, PROTEUS, EAGLE, MATLAB, Geo Explorer(Terrasync)

surbhirpatil267@gmail.com

Surbhi Ravindra Patil

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Natural Hazard & Disaster Risk Management)
M.Sc. (Geology)
B.Sc. (Geology)

Area of Interest:
Catastrophic Risk Analysis and Interpretation, Hazard Zonation Mapping and Modelling, Susceptibility, Vulnerability and Risk assessment, Application of RS and GIS in Natural Hazard and Disaster Risk Management

Software Skills:
ERDAS, ArcGIS, QGIS, AUTOCAD, SNAP, ENVI, MicroStation

swathikalyani106@gmail.com

Swathi Kalyani

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Water Resources)
B. Tech (Agricultural Engineering)

Area of Interest:
Watershed and hydrological modelling, Flood mapping, Flood monitoring and impact assessment, Crop monitoring and mapping, agro-meteorology. Sustainable irrigation techniques, soil moisture retrieval, Water quality analysis.

Software Skills:
ArcGIS, QGIS, ERDAS, SNAP, Google Earth Engine, AutoCAD

tania23geo@gmail.com

Tania Sharma

Qualifications:
PGD in Remote Sensing & GIS (Specialization: Urban Studies and Regional Development)
M.Sc. (Geography)
B.Sc. (Physics, Geography and Maths)

Area of Interest:
Hazard and Disaster Management , application of RS and GIS in Urban Planning, Remote Sensing, Earth movements, Cartography

Software Skills:
ERDAS Imagine, QGIS, ENVI, SNAP, Microsoft Office

tanya.balani28@gmail.com

Tanya Balani

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

Area of Interest:
Mineral exploration, planetary sciences, Natural hazard and disaster management, Geodynamics and Plate tectonics, Earthquakes, Geomorphology, Glaciology, Geological Feature Mapping, Water Resource Management Mapping and Monitoring, Climatology, Meteorology and Oceanography

Software Skills:
R, Python, ArcGIS, QGIS, ENVI, ERDAS Imagine, LPS, SNAP, GLOBAL MAPPER, Google Earth Pro, Microsoft Office.

uditagarbyal@gmail.com

Udita Garbyal

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

Area of Interest:
Forest mapping and monitoring, Forest inventory, Ecosystem services mapping, High altitude rangeland studies, Climate change studies.

Software Skills:
QGIS, ERDAS Imagine, ENVI, Google earth engine, SPSS, MS office.

ujjwalswain123@gmail.com

Ujjwal Kumar Swain

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

Area of Interest:
Urban, Regional and Spatial Planning, Remote Sensing & GIS, Urban Ecology, Sustainable Design Techniques, 3-D modelling with realistic rendering, Infrastructure Development & Management.

Software Skills:
R, Python, ArcGIS, ERDAS Imagine, QGIS, ENVI, SNAP, Google Earth Engine, LiDAR 360, AutoCAD, Revit with Enscape Plug-in, SketchUp with V-ray & Enscape 2.5.2, Lumion 8.0, Adobe Photoshop & InDesign.

unnatiyadav06@gmail.com

Unnati Yadav

Qualification:
PGD in Remote Sensing & GIS
(Specialization: Satellite Image Analysis & Photogrammetry)
B.E (Information Technology)

Area of Interest:
GIS and Applications, Satellite & Aerial Photogrammetry, Digital Image Processing, GIS Utility Management.

Software Skills:
ERDAS Imagine, ArcGIS, Arc Map, ENVI, SNAP, QGIS, Ericsson Network Engineer.

vndna.pandey@gmail.com

Vandana Pandey

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

Area of Interest:
Wildlife Monitoring, Wildlife Management, Human-Wildlife Conflict Mitigation, Biostatistics, Landscape Ecology, Forest Mapping

Software Skills:
R, ArcGIS, QGIS, ERDAS Imagine, SNAP, Google Earth Engine, SPSS, XLSTAT, CAPTURE, Cyberlink PowerDirector

bhadoriyasinghvivek@gmail.com

Vivek Singh Bhadoriya

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Marine & Atmospheric Sciences)
M.Sc. (Environmental Science)
B.Sc. (Botany, Zoology & chemistry)

Area of Interest:
Atmospheric science and ocean dynamics, climate change

Software Skills:
Python, MATLAB, SQL, NoSQL (MongoDB)

rautyash1998@gmail.com

Yash Gajanan Raut

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Spatial Data Science)
B.E. (Computer Science & Engineering)

Area of Interest:
Spatial Data Analysis, Data Analysis, Big data, Remote sensing, Machine Learning, GIS modelling, Data Mining, Digital Image Processing, Spatial data visualization, Network Security.

Software Skills:
Python, R, C, C++, SQL, HTML, Tableau, Power BI, ArcGIS, ENVI, ERDAS Imagine, SNAP, PostgreSQL, QGIS,Google Earth Engine, SAS (Statistical Analysis System) & MySQL.

ishitaraj.bwn@gmail.com

Ishita Raj

Qualifications:
PGD in Remote Sensing & GIS
(Specialization: Natural Hazard and Disaster Risk Management)
B.Sc (Geography)

Area of Interest:
Application of RS and GIS in Natural Hazards and Disaster Management, Geomorphology, Plate Tectonics, Forest fire monitoring, Landslide Monitoring, Flood zone Mapping, Soil Erosion Modelling

Software Skills:
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