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G20 भारत 2023 INDIA

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भारतीय सुदूर संवेदन संस्थान
Indian Institute of Remote Sensing
देहरादून / Dehradun

Placement Brochure 2023

- 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 also hosts Centre for Space Science & Technology Education in Asia and Pacific (affiliated to 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, the course is approved by the All India Council for Technical Education (AICTE) 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 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) Special on demand/tailor-made courses. The Institute has so far trained 13,882 professionals representing 110 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, 3209 Institutes/Organizations spread across India are networked with IIRS. More than six lakh participants have benefitted so far from IIRS Outreach Programmes.

The Placement Brochure of 2023 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 Industry, Academia and other Institutions to pick the talent and also provide opportunity to the course participants for their placement.

I wish very bright future and steady career for our students.

Dr. Raghavendra Pratap Singh
Director, Indian Institute of Remote Sensing

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 13,882 professionals and students have been trained/educated so far.

To widen its outreach, IIRS has started live and interactive Distance Learning Programme (DLP) since 2007. As on date, 3209 Institutes/Organizations are networked with IIRS and more than six lakhs participants have attended various basic and advanced courses conducted by the Institute through DLP. IIRS has also launched e-learning course on Remote Sensing and Geo-information Science since August, 2014.

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

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

Training, Education & Capacity Building Programmes

The training and capacity building programmes of the Institute are designed to meet the requirements of various target/user groups, i.e., for professionals at working, middle and supervisory levels, fresh graduates, researchers, academia and decision makers. The duration of courses ranges from one-week to two-years. The programmes are meticulously designed by the domain experts, and are then approved by the Board of Studies and Academic Council consisting of eminent subject experts. A team of seventy dedicated scientists at IIRS contribute in delivering the course contents. Guest faculty from reputed 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. The course is approved by the AICTE.
2. M.Sc. and PGD in in Geoinformatics conducted in collaboration with the Faculty of Geo-information Science & Earth Observation (ITC) of the University of Twente (UT), The Netherlands.
3. 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) Special on-demand/tailor-made courses. The Institute has so far trained 13,882 professionals representing 110 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, 3209 institutions and organizations spread across India are networked with IIRS. More than Six lakh participants have benefitted so far from IIRS Outreach Programmes.

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

Due to prevailing COVID-19 pandemic situation in the country and health risk involved in travel, selection of eligible self sponsored candidates for admissions in M.Tech., M.Sc. and P.G. Diploma programmes were based on online interview and Academic career (in place of Entrance Test).

For further details please visit IIRS website at https://www.iirs.gov.in

Brief profile of final year students

Long-term courses: M.Tech., M.Sc. & P.G.D.

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 and Atmospheric Sciences, Urban and Regional Planning 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 3 choice based elective papers. Two elective papers, include 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 multidisciplinary case study of seminar out of the 60 topics offered from 9 specializations.

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

M.Tech. Course Structure

Semester-I

Module-I (4.5 months)

Compulsory (Core) Papers
- Remote Sensing & Image Interpretation
- Digital Image Processing
- Geographic Information System
- Photogrammetry & Cartography

Elective Papers
- Statistics & Programming for Geodata
- Statistics & RS Applications in NRM

Semester-II

Module-II (3 months)

Each Specialization has 4 subjects
- Agriculture and Soils
- Forest Resources & Ecosystem Analysis
- Geoinformatics
- Geosciences
- Marine & Atmospheric Sciences
- Satellite Image Analysis & Photogrammetry
- Urban & Regional Studies
- Water Resources
- Natural Hazards & Disaster Risk Management

Module-III (3 months)

Compulsory (Core) Papers
- Research Skills

Elective Paper
- Technology and Standards for Geospatial workflows
- Geospatial Technologies for Environmental Monitoring and Analysis
- Analytical Cartography and 3D GIS
- Climate Change Impact on Natural Resources

Semester-III & IV

Project Work (13.5 months)

Project Work and Defence
- Multi-Disciplinary Case Study/ Seminar

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AISWARYA RAMACHANDRAN

Qualifications

MTech in Remote Sensing & GIS (Marine & Atmospheric Sciences); M.Sc Physics (Astrophysics)

Area of Interest

Climate change, Fog retrieval, Cloud microphysics, Radiative Transfer, Meteorology, Fog forecasting using Machine learning, Digital image processing, SAR remote sensing

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, Radiative Transfer model (SBDART), GrADs, Fortran, Linux OS.

Thesis

High-resolution retrieval of Fog/Low stratus clouds and its properties over Delhi region

Abstract

This study attempts to retrieve Fog/Low stratus cloud from landsat satellite images with high spatial resolution over Delhi and surroundings and aims to retrieve the cloud microphysical properties such as optical depth, Effective radius, Liquid water path. The study also aims to generate a climatology of winter fog and compare with MODIS data. The fog hole phenomenon is being investigated and the effect of urbanization and air pollution is studied to explain the spatio-temporal variation of winter fog over Delhi region

akarshgopal61@gmail.com

AKARSH S G

Qualifications

MTech in Remote Sensing & GIS (Agriculture & Soils); MSc Agriculture (Agronomy)

Area of Interest

Applications of remote sensing using optical, SAR, and UAV data include carbon flux, biophysical parameter retrieval for vegetation, crop yield estimation and its condition assessment, ecosystem modeling, etc.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, Eddy pro, TIMESAT, DSSAT, Google earth pro

Thesis

Improving gross primary production estimation over Himalayan agro-ecosystems using multi-sensor satellite data and ecosystem models

Abstract

Thesis research is primarily aimed at utilizing the consistent, reliable, and systematic data for monitoring and characterization of vegetation structure, phenology and estimation of GPP that can overcome the lack of extensive flux tower observations over an ecosystem. Another way is to use models, driven by a multi-layer database of climate, soil, and vegetation types. CO2 flux data from the tower sites is useful for parameterization and validation of models.

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AKHIL FRANCIS T

Qualifications

MTech in Remote Sensing & GIS (Natural Hazards & Disaster Risk Management); M.Sc Environmental Science, B.Sc Zoology

Area of Interest

Natural Hazards and Disaster Risk Management, Climate Change Studies, Environment Monitoring, Environmental Impact Assessment, Application of Thermal and Microwave RS

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, Google Earth Engine, MS Office

Thesis

Establishing Heatwave Thresholds for Major Metropolitan Cities in India using Long Term Space and IMD Observations

Abstract

Global land surface air temperature has increased by 1.53°C to the pre-industrial era, which led to increased heat wave frequency, intensity and duration. Cities are more vulnerable to heat waves due to pre-existing UHI and urbanization. The main objectives of the present research are to determine heatwave thresholds for 54 Indian metropolises using long-term space and IMD observations and to identify spatiotemporal heatwave hazard, vulnerability and risk to find the cities which are more prone.

akhiraj9661@gmail.com

AKHILESH KUMAR

Qualifications

MTech in Remote Sensing & GIS (Satellite Image Analysis & Photogrammetry);
BTech Civil Engineering

Area of Interest

Aerosol retrieval, Radiative Forcing modelling, Hydrologic modelling, Climate change, Urban growth modelling, Land use change, SAR remote sensing

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, eCognition, CDO, Idrisi, ArcSWAT, SWAT Cup, STAAD Pro

Thesis

Development and Evaluation of a Generalized Algorithm for Aerosol Optical Depth Retrieval Over Land Surfaces Using At-Sensor Signals

Abstract

Over the years, algorithms have been developed to retrieve AOD from satellite images using ultra-blue and blue bands due to lower surface reflectance at these wavelengths. But the available products are very coarse and have large spatial discontinuities. In the current project, an attempt would be made to evaluate a new method of approximating surface reflectance and develop a generalized algorithm to retrieve AOD over land surfaces using Green, Red or NIR bands. The study will also seek to classify the aerosol types using a combination of multi-wavelength AODs and Angstrom exponent.

akshaysimhachhp@gmail.com

AKSHAYASIMHA C H

Qualifications

MTech in Remote Sensing & GIS (Natural Hazards & Disaster Risk Management);
B.E. Civil Engineering

Area of Interest

Disaster Risk Management, Vulnerability Assessment, Flood Mapping and Management, Hydrological and Hydrodynamic modeling, Climate change studies, Environmental Impact Assessment, Landslide Hazard Zonation

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, HEC-HMS, HEC-RAS, AutoCAD, MaxEnt, Microsoft Office

Thesis

Flood Prediction Modelling Using Hydrological and Remote Sensing for Ghaghara River Basin –Upper Ganga (Uttar Pradesh)

Abstract

Floods are catastrophic events that are triggered by rains, storm surges, and cyclones and are usually induced by an unusual rise in rainfall frequency, changes in LULC patterns, and unfavorable hydrological consequences. Due to the complexity of acquiring and handling datasets, hydrological modeling of vast river basins has become a challenging feat. In this study, a flood prediction model is developed for the Ghaghara Basin through a hydrodynamical modeling approach using space inputs.

whereisananya@gmail.com

ANANYA SRIVASTAVA

Qualifications

MTech in Remote Sensing & GIS (Geosciences);
BSc (Hons.) Geology, MSc Geology

Area of Interest

Planetary Geology, Visible - NIR spectroscopy, Planetary Geomorphology, Impact Cratering, Venusian Volcanism, Mineralogy, landscape evolution, basin formation

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB

Thesis

Geological Investigation of Mare Smythii using high resolution data

Abstract

In this project, the geology of Mare Smythii is investigated using high resolution data.

anjukurian4797@gmail.com

ANJU KURIAN

Qualifications

MTech in Remote Sensing & GIS (Forest Resources & Ecosystem Analysis);
MSc. Environmental Science
BSc. Physics

Area of Interest

Climate change studies, carbon flux, and aboveground biomass monitoring, forest carbon dynamics modelling, LiDAR and hyperspectral remote sensing, environmental impact assessment, habitat suitability analysis

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, 3D Forest, Maxent, Microsoft Office

Thesis

Forest carbon dynamics modelling using multi-sensor earth observation data in part of Northeast India

Abstract

Monitoring above-ground carbon dynamics is crucial in the context of climate change, as it plays a significant role in regulating the biogeochemical cycle and global climate. It requires multi temporal remote sensing data and field measurements to accurately quantify and map the extent of AGB loss. This study aims to propose a robust approach for modelling long-term above-ground carbon dynamics using Landsat time-series data, LiDAR and single date inventory data in part of North-East India.

anshurana457@gmail.com

ANSHU RANA

Qualifications

MTech in Remote Sensing & GIS (Forest Resources & Ecosystem Analysis);
B.Sc. Forestry (Hons.)

Area of Interest

Climate change studies in the Himalayan ecosystem, Alpine Treeline Dynamics, Ecological Niche Modelling & Biodiversity Mapping, Forest Hydrology, Biomass Assessment, Habitat Suitability Analysis, Carbon Sequestration.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, Fragstats , Maxent, 3D Forest, SWAT, MS Office

Thesis

Assessing effects of fire on nutrient dynamics of grassland ecosystem using in-situ observation and hyperspectral data.

Abstract

Grasslands are an integral part of the terrestrial ecosystem. Among various disturbances, fire plays a significant role in global biogeochemical cycles, having positive and negative impacts on mineral cycling and productivity. The study aims to use a combination of in-situ observations and satellite driven proxies to assess the impact of fire on the nutrient dynamics of grassland ecosystems. It will reveal significant changes occurred in the physicochemical composition of soils and vegetation.

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ARSHAD PEER MOHAMED S.H.

Qualifications

MTech in Remote Sensing & GIS (Satellite Image Analysis & Photogrammetry);
B.E. Geoinformatics

Area of Interest

GIS data pre-processing and post-processing, GIS data analysis, LiDAR and Point cloud handling, Air Quality Analysis, Deep Learning, Convolutional Neural Networks, 3D modeling, 3D Mesh Generation

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, Google Earth Engine, eCognition

Thesis

Convolutional Neural Network based approach for medium dense urban buildings extraction from high-resolution UAV and Satellite imageries

Abstract

GIS applications for urban planning and management must include urban building information. This circumstance is a better match for UAV-based photogrammetry due to its high resolution. In this study, in order to improve building extraction accuracy, we present a framework that applies the integration of semantic segmentation algorithms and feature pyramid networks to UAV images with DSM and visible band difference vegetation index (VDVI). The findings of this study will demonstrate that the accuracy of the building extraction was improvised. It will be further deployed on the different datasets to evaluate the model performance.

athiraganesan314@gmail.com

ATHIRA N.G

Qualifications

MTech in Remote Sensing & GIS (Forest Resources & Ecosystem Analysis);
M.Sc. Environmental Science
B.Sc. Botany

Area of Interest

Biomass Assessment, Habitat Suitability Analysis, Ecological Niche Modelling & Biodiversity Mapping, Carbon Sequestration and satellite-based ET flux, Biodiversity assessment and conservation, Forest Hydrology, Climate Change, Environmental Impact Assessment

Software Skills

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

Thesis

Understanding evapotranspiration of moist- and dry-deciduous forest using satellite remote sensing

Abstract

Evapotranspiration is a complex physical process in the forest. Evapotranspiration has long been adopted by bio climatologists to explain significant regional variations in ecosystem productivity and accessible environmental energy. This study aims to estimate ET through the SAFER model in moist and dry deciduous forest sites in NWH. SAFER is an algorithm whose non-mandatory advantage is that it can use meteorological data from various station types.

bhargavianavi@gmail.com

BHARGAVI B A

Qualifications

MTech in Remote Sensing & GIS (Natural Hazards & Disaster Risk Management);
B.E Civil Engineering

Area of Interest

Cryosphere Studies,Flood Management, Landslide Hazard Zonation, Hydrologic and Hydrodynamic modelling,Climate Change Studies

Software Skills

ArcGIS, QGIS, ERDAS Imagine, SNAP, Python, Google Earth Engine, HEC-HMS,HEC-RAS,MaxEnt

Thesis

Assessment of potential Glacial Lake Outburst Flood (GLOF) sites in Alaknanada Basin using space based inputs.

Abstract

The retreat of glaciers owing to climate change is resulting in the creation of numerous glacial lakes in mountainous areas. Outbursts from these lakes called as glacial lake outburst floods(GLOF's) have catastrophic consequences.These events can be triggered by extreme rainfall or overtopping due to the waves generated from ice avalanches, rock falls, or calving.This thesis aims to identify and evaluate the susceptibility of lakes that are vulnerable to GLOFs under the impact of avalanche.

bondadamounika26@gmail.com

BONDADA MOUNIKA

Qualifications

MTech in Remote Sensing &
GIS (Urban & Regional Studies);
B.Tech in Urban and Regional Planning

Area of Interest

GIS and Remote Sensing, Urban micro Climate ,Urban spatial growth analysis, Environmental Planning & Waste Management ,Urban and Regional Planning, Non Motorized Transportation Planning , Rural Development

Software Skills

ArcGIS, QGIS, ERDAS Imagine, Google Earth Engine, eCognition, Geoserver, AutoCAD , City Engine

Thesis

Spatio- Temporal Analysis of Urban Energy Fluxes using Earth Observations for Delhi.

Abstract

Urbanization and the spatial growth of cities with the land-use land cover change tend to utilize more resources and contribute to large amounts of anthropogenic heat emission.There is a need to estimate the changes in the amount of artificial energy released into the atmosphere creating an imbalance in the environment.The study aims to estimate and quantify the Spatio-temporal changes in urban energy fluxes with the help of Surface Energy Balance Method using the Earth Observation dataset.

chethanram7009@gmail.com

CHETHAN V A

Qualifications

M.Tech. Remote Sensing & GIS (Water Resources)
B.Tech. (Agricultural Engineering)

Area of Interest

Downscaling,Groundwater and surface water hydrology,Satellite Gravimetry,Hydrological and Hydrodynamic modelling,Flood mapping and monitoring using SAR ,Water quality mapping and monitoring, Watershed Prioritization, Satellite image processing and analysis.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, Geoserver, SWAT, HEC-HMS, HEC-RAS, CROPWAT, ILWIS, SWMM, SPHY, VIC, WEAP,BRAT, MODFLOW,BLENDER

Thesis

Downscaling of Gravity Based Change in Terrestrial Water Storage (ΔTWS) for Enhanced Basin-Scale Groundwater Storage Assessment

Abstract

Groundwater storage variations must be analysed both spatially and temporally to ensure its sustainable management over river basins.GRACE satellites,designed to monitor variations in gravity,gives Terrestrial water storage but with coarse resolution. In this study various statistical and machine learning techniques are used for improving the spatial resolution of GRACE TWS through Downscaling, from which Groundwater storage anomaly is extracted as a residual component of Water Budget.

preetham.darivemula@gmail.com

DARIVEMULA PREETHAM

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
BTech Geo-informatics

Area of Interest

Geoprocessing and Analytics using Python and R, Spatio-Temporal Data Mining, Kalman Filtering and Data Assimilation, Web GIS, Image Processing and Analysis, Geo-statistics.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, SNAP, Python, R, Geoserver, PostgreSQL/PostGIS database, Linux OS

Thesis

Kalman Filter Based Prediction and Assimilation for Atmospheric Variables

Abstract

The Kalman filter based assimilation is widely used in the meteorological studies and mostly for accurate weather modelling. This work deals with the Kalman filter based assimilation for the atmospheric variables of Precipitation and Air Temperature and to assess the performance of the assimilation process. In this work, time-series data of Precipitation and Air temperature were considered station-wise and initially, a model was developed, fitted for analysing the time series of each variable for initial conditions and then classical Kalman filter based assimilation was performed.

devdinesh.dinesh@gmail.com

DEV DINESH

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
B.Tech Information Technology, PGD Satellite Image Analysis & Photogrammetry

Area of Interest

SAR Polarimetry, Radar Planetary Studies, Image Processing Algorithms, Mathematical modelling, Machine Learning, Deep Learning, Cryosphere studies, Climate modelling, Framework and Software Development.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, eCognition, Geoserver, R Studio, Java, PolSAR Pro, ISCE, PostGreSQL,

Thesis

Polarimetric Modelling for Soil Dielectric Characterization and Analysis of Spatio-Temporal Variation

Abstract

The research aims to examine the potential of Polarimetric Synthetic Aperture Radar (PolSAR) data for soil dielectric characterization based on different backscattering models. Furthermore, the multi-frequency SAR data evaluates the soil penetration depth capability. This study aims to develop a framework for Machine Learning based soil moisture estimation. Research findings will provide an essential recommendation for future missions such as ROSE-L and NASA-ISRO SAR missions (NISAR).

dharanya71@gmail.com

DHARANYA T

Qualifications

MTech in Remote Sensing & GIS (Agriculture & Soils); B.E Agriculture Engineering

Area of Interest

Microwave Remote Sensing, SAR for Agriculture, PolSAR and PolINSAR techniques, Crop Monitoring, Crop biophysical parameters retrieval, Crop Modelling, Soil Moisture retrieval, Machine Learning

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, PolSAR Pro

Thesis

Comparison of Simulated Hybrid Polarimetry with the Fully Polarimetric RADARSAT-2 data for Pearl Millet Crop Monitoring

Abstract

Fully polarimetric data is rich in information. However the operational constraints in implementation of the system makes the data availability less feasible. Also the potential of Compact-pol is underexplored for dryland crops. This research aims to evaluate the level of information contained in a Compact-pol data in comparison with the Quad-pol. The data simulated in various modes is assessed for its sensitivity with crop parameters and retrieval of biophysical parameters against the Quad-pol.

diwakarsaran31@gmail.com

DIWAKAR SARAN

Qualifications

MTech in Remote Sensing & GIS (Water Resources); M.Tech (Water Resources Engineering), B.Tech (Civil Engineering)

Area of Interest

Hydrological Modelling, Groundwater Modelling, Understanding Surface Water - Groundwater interactions, Open Channel Hydraulics

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, SWAT, SWAT-CUP, Visual MODFLOW, QSWATMOD, ILWIS, CROPWAT, EEFLUX, BRAT, HEC-GeoHMS, EPANET, SWMM, PMWiN, HEC-RAS

Thesis

Surface Water - Groundwater Interaction Assessment using Modelling and Geospatial Inputs

Abstract

Understanding the interactions between surface water and groundwater (SW-GW) is crucial because they can be used to identify places that are particularly vulnerable to floods and droughts. However, accurate evaluation of the SW-GW interaction has received very little attention. In order to better understand these interactions, this study examines the spatial patterns of groundwater discharge to the stream network of a river basin across a multi-decadal time frame.

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DIYA DAS

Qualifications

MTech in Remote Sensing & GIS (Marine & Atmospheric Sciences); M.Sc. (Atmospheric Sciences), B.Sc. (Physics)

Area of Interest

Ocean dynamics, climate dynamics, cloud microphysics, ocean modelling, climate change studies, aerosol and air quality studies, ocean-atmospheric Interaction studies, Numerical Weather Prediction and forecasting, extreme weather events

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, R, MATLAB, C++,Fortran.

Thesis

Generation and evolution of marine heat waves over the tropical Indian Ocean using satellite data and numerical ocean modelling.

Abstract

The project aims to detect and investigate the duration, intensity and frequency of Marine Heat Wave (MHW) events over the tropical Indian Ocean and also study the role of planetary waves and IOD events on the occurrence of MHWs. Regional Ocean Modelling System (ROMS) will be used for realistic simulation of physical oceanographic parameters on the surface and subsurface variability in response to different MHW events. Effect of MHWs on the marine primary productivity will also be studied.

hamish.iirs@gmail.com

DSOUZA HAMISH HENRY

Qualifications

MTech in Remote Sensing & GIS (Satellite Image Analysis & Photogrammetry); MTech (Electronics), BE (Electronics)

Area of Interest

Synthetic Aperture RADAR, Planetary Science, Cartography and GIS, Hyperspectral RS, Image Processing, Machine Learning, Earth Observation based Environment, Social, Governance analysis

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, eCognition, Geoserver, PolSAR Pro, Blender, BRAT, Power BI, Linux OS, ISCE, Midas, ISIS, SPICE Toolkit,

Thesis

Dielectric characterization of the Lunar surface and lava tube detection using Chandrayaan-2 DFSAR data

Abstract

The project aims at processing of data from the Dual Frequency Synthetic Aperture Radar (DFSAR) aboard Chandrayaan-2 from Level 1 to Level 3 of the Planetary Data System and generate map projected data products to study the polarimetric characteristics and dielectric properties of the Lunar regolith and identify subsurface features on the Moon. Since DFSAR is the first fully polarimetric L-band SAR sensor outside the Earth, the data is expected to give new insights into the surface of the Moon.

gaurishsinghal@gmail.com

GAURISH SINGHAL

Qualifications

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

Area of Interest

Geospatial modelling for Water Resource Management, Disaster Management, Hydrodynamic Modelling, Water Quality Mapping and Assessment, Satellite Altimetry use for Inland Waters

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, Geoserver, PolSAR-Pro,BRAT, Altis, HEC-HMS, HEC-RAS, Blender, MIKE, SWMM, EPANET, ILWIS,CROPWAT,WEAP

Thesis

Multi-Parameter Calibration of Hydrodynamic Model using Satellite Observations

Abstract

Anthropogenic activities and climate change have increased the need to monitor rivers along their whole length for which hydrodynamic modelling becomes the go to tool. But the limited availability of in-situ data limits our capacity to study and simulate rivers. In this study we use satellite altimetry together with other satellite-derived products to model and simulate rivers flows, improving the scope and ease of hydrodynamic modelling.

gyanada1997@gmail.com

GYANADA PANDA

Qualifications

MTech in Remote Sensing & GIS (Urban & Regional Studies); Bachelor's in Planning (Urban And Regional Planning)

Area of Interest

Urban Rainfall Patterns, Urban Flood and Risk Studies, Weather Prediction and Forecasting, Urban Expansion and Spatial Planning, Urban Green Spaces, SDGs, Urban Microclimate, Smart City Development, Urban and Regional Planning, Transportation Planning, Urban Utility and Services, 3D GIS and Remote Sensing.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, eCognition, WRF-ARW, WRF-Hydro, SWMM, HEC-HMS, Illustrator, InDesign, AutoCAD, ArcGIS Pro.

Thesis

Urban Flood Risk Modelling Based on Extreme Rainfall driven responses from WRF and WRF-hydro coupled model

Abstract

This research study focuses on quantifying urban floods for three EREs in the Doon Valley region to develop a VHR database for flood modeling and prediction modules compatible with WRF models. It will use fine-scale land surface parameters to downscale and predict the spatial variability and intensity of EREs and further identify the urban flood hazard hotspots. This information would then be used to identify urban flood risk zones and model storm water drainage networks in those areas.

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HARSHADITYA GAUR

Qualifications

MTech in Remote Sensing & GIS (Satellite Image Analysis & Photogrammetry);
BTech (Computer Science)

Area of Interest

Machine Learning & Artificial Intelligence, Hyperspectral & UAV Remote Sensing, Big Data, Geospatial Data Analytics, AR/VR/XR

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, Google Earth Engine, eCognition, Geoserver, Google Cloud, Pytorch, TensorFlow, RPA, Apache Spark

Thesis

Integration of Hyperspectral and LiDAR data for urban classification using Deep Learning Techniques.

Abstract

Using deep learning techniques to integrate the respective information from hyperspectral and LiDAR by reducing data dimensionality, training time, and computational expense There is a scarcity of large numbers of training samples for remotely sensed airborne hyperspectral and LiDAR data, so our work focuses on the innovation of feature extraction, integration, and classification approaches using CNN-based fusion techniques for classification.

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KARTHIKA K

Qualifications

MTech in Remote Sensing & GIS (Marine & Atmospheric Sciences);
MSc Environmental Science, BSc Hons. Physics

Area of Interest

Numerical weather prediction, data assimilation for meteorology, extreme weather events, tropical cyclone, climate change

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, GrADS, C++, Scilab, WRF-ARW, Linux OS, CDO, WRFDA

Thesis

Impact assessment of assimilating hyperspectral sounder observations from IASI on WRF model analysis and forecasts

Abstract

Hyperspectral infrared sounding measures can give atmospheric structure information with high temporal and spatial resolution, making them the most significant observation source for improving global numerical weather prediction. In the present study Infrared Atmospheric Sounding Interferometer (IASI) hyperspectral satellite data assimilation will be utilized to evaluate its impact on WRF model analysis and forecast fields using GSI data assimilation system with 3D Var scheme.

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LANDGE OMKAR PRAKASH

Qualifications

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

Area of Interest

Irrigation Water Management, Evapotranspiration, Watershed Development, Watershed Prioritization, Hydrological and Hydrodynamics Modelling, Satellite Altimetry, Energy Balance Algorithms, water quality mapping and monitoring, surface water hydrology, Thermal Remote Sensing

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, Geoserver, BRAT, CropWat, Arc-SWAT ,HEC-HMS, HEC-RAS, EPANET, SWMM, MODFLOW, Blender, Microsoft Office

Thesis

Partitioning Evaporation/Transpiration from Irrigated Agricultural Area Using Two Source Energy Balance (TSEB) Model

Abstract

TSEB is thermal-based energy balance RS technique that explicitly calculates Evaporation(E) and Transpiration(T). This project contains estimation of latent heat flux that will be calculated separately for canopy and soil based on measurements of radiometric surface temperature by using Priestley-Taylor and TSEB with component soil and canopy temperatures. Accurate estimation of E/T provides actual crop water requirements for mulching crops that can be helpful in effective irrigation management.

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LAVINIA TAMANG

Qualifications

MTech in Remote Sensing & GIS (Forest Resources & Ecosystem Analysis);
B. Sc. Forestry (4 years)

Area of Interest

Forest disturbance, Water quality, Hyperspectral Remote Sensing, Machine/ Deep Learning, Climate Change studies, Sustainable development, Waste Management, Biodiversity conservation, Biomass and productivity assessment, Carbon dynamics, Ecological Niche Modelling, Habitat Suitability Analysis, Socio-Economic studies

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, eCognition, Geoserver, 3D Forest, GrADS, MaxEnt, Open Data Kit, Figma, Webflow, Canva, Microsoft Office, Blender, Fragstats

Thesis

Deep Learning for forest disturbance assessment using Earth Observation data

Abstract

Forest disturbance can change a forest ecosystem's structure, biomass, and composition. The frequency and intensity of forest disturbances vary depending on responsible factors. The present study is to assess the spatial and temporal trends of forest disturbance. It categorizes forest disturbance types in a region of North East India using deep learning and high-resolution imagery. It also focuses on comparing traditional statistical algorithms for forest disturbance and deep learning models.

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LIPSA PRADHAN

Qualifications

MTech in Remote Sensing & GIS (Forest Resources & Ecosystem Analysis);
Integrated M.Sc, Environmental Sciences

Area of Interest

Climate Change, Environmental Impact Assessment, Environment monitoring and management, Biodiversity assessment and conservation, Habitat Suitability Analysis, Environment Pollution, Carbon Sequestration, Ecology, Natural Disaster Monitoring (Tropical Cyclones, Forest Fires), Sustainable Development, Environmental Statistics

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, R Studio, 3D Forest, GrADS, FRAGSTATS, MAXENT, Microsoft Office, Blender

Thesis

Assessment of the Impact of Drought and Heat Waves on Vegetation Functioning

Abstract

People all over the world are observing changes in precipitation, rapid glacier melting, rising air temperatures, and many other unavoidable effects of climate change and global warming. These factors have also increased the number of years with drought and heat waves. This study aims to determine the impact of drought and heat waves on vegetation functioning using time series eddy covariance data, and optical and thermal indices, and to evaluate the sensitivity of SIF to identify these impacts.

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LUVKESH ATTRI

Qualifications

MTech in Remote Sensing & GIS (Urban & Regional Studies);
B.Tech Civil Engineering

Area of Interest

Microwave/Optical Image Processing, Synthetic Aperture Radar, Machine Learning

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, eCognition, Geoserver, PolSARpro

Thesis

Study of Multifrequency Spaceborne Polarimetric SAR Data For Urban Land Cover Classification

Abstract

This research aims to study the suitability of different decomposition models in urban areas. Comparitive analysis of Space-borne multifrequency PolSAR data and Optical Multispectral data is performed for urban areas. Machine learning based classification algorithms are implemented using the polarimetric parameters derived from the datasets.

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MADHUPARNA MAJUMDER

Qualifications

MTech in Remote Sensing & GIS (Natural Hazards & Disaster Risk Management);
BTech Civil Engineering

Area of Interest

Earthquake Precursors Studies, Disaster Risk Management, Machine Learning/Deep Learning, Thermal Remote Sensing, GPS, Land Deformation Studies, Seismic Hazard Analysis, Landslide Hazard Zonation.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, RAMMS, GrADS, C, Java, PCI Geomatica

Thesis

Earthquake Precursor Studies: LST, TEC & Lineament

Abstract

An earthquake precursor is an anomalous phenomenon that reportedly precedes at least some earthquakes giving adequate warning. This study aims to determine the Total Electron Content, Lineament changes, and Land Surface Temperature anomalies as a much stronger earthquake precursor. This work deals with identifying and analyzing these real-time anomalies in the spatial domain and estimating the probable epicenters using GIM data with considerable accuracy using machine learning algorithm.

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MAINAK MUKHOPADHYAY

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
BSc(Environmental Science), MSc(Environmental Science)

Area of Interest

Quantitative Remote Sensing, Multi-sensor data integration, Optical and LiDAR Data Processing, Ecosystem Carbon Dynamics, Social and Conservation Ecology, Climate Change Studies, Natural Resources Management, Data Science and Technology for Environmental Protection

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, Geoserver, DART RTM, Blender

Thesis

Modelling Forest Structure and Function relationship based on Disturbance-Recovery history of Shifting Cultivation landscapes of North-East India using Spaceborne LiDAR and Solar Induced Fluorescence Data

Abstract

Shifting Cultivation is an ancient cultivation practice in the tropical rainforests of North-East India. Though previously sustainable, it has become the dominant cause of degradation of such ecosystems in recent times due to over-exploitation and population explosion. This study aims at studying the forest bio-physical characteristics and physiological status with respect to the disturbance and regrowth history in such landscapes using spaceborne LiDAR and Solar Induced Fluorescense Data.

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MANIVANNAN

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
B.E. Geoinformatics

Area of Interest

GIS Web& Mobile application development, Distributed computing, Big GIS Data

Software Skills

ArcGIS, QGIS, ERDAS Imagine, Python, Google Earth Engine, Geoserver, WebGIS development, Native Android development, GCP, ReactJs

Thesis

Framework for processing and visualizing Big GIS data

Abstract

With the limitations like distributed data storage & processing, spatial indexing & retrieval, support for diverse datasets, compliance with OGC standards and GUI for non-tech users, the existing GIS bigdata analysis platforms may not harness full potential of big GIS data.This study focuses on developing a cloud based framework to provide the geospatial processing and visualisation tools and interface for the end-users to analyse, visualise and inquire big gis data stored on distributed nodes.

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MAYANK PAL

Qualifications

MTech in Remote Sensing & GIS (Geosciences); BSc Geology(Hons.) MSc Geology.

Area of Interest

Groundwater Quality and Hydrodynamics; Geomorphology and Landscape Evolution; Geophysical Investigation; GIS and Image Processing. Exploration Geology, Hyperspectral Remote Sensing, InSAR & DInSAR Application, Hydrological Modelling, Landslide Monitoring. Hazard Risk Monitoring, Geophysical Exploration

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, SWAN, Grapher, MODFLOW, Microsoft Office Products, SAGA, Softwares for MASW

Thesis

Unearthing the buried paleochannel course of the Saraswati River using comprehensive SAR and Geophysical techniques.

Abstract

Thesis research work is primarily aimed at identification of paleochannels of The River Saraswati which dried up or covered due to enviornmental changes using different approaches and datasets like Optical, microwave, thermal and geophysical investigation. Identification of paleochannel may point for groundwater extraction with new approach.

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MEGHNA

Qualifications

MTech in Remote Sensing & GIS (Geosciences); M.Sc. Geology, B.Sc. (Geology, Chemistry, Physics)

Area of Interest

Application of SAR in Groundwater studies, Hyperspectral remote sensing, Natural Hazard and Disaster Management studies, Hydrological modelling, Groundwater modelling, Geophysical investigations, Satellite image processing and GIS, Springshed studies

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, SWAT, HEC-HMS, ILWIS, MS Office, SWAN, MODFLOW

Thesis

Integrated geospatial and geophysical approach for characterization of springshed and spring rejuvenation in parts of Northwest Himalaya

Abstract

The Indian Himalayan region is home to about 50 million people and springs have traditionally been a reliable source of water. This study aims to integrate GIS and geophysical technologies for springshed characterization and rejuvenation, in addition to identifying water saturation zones. To evaluate the surface-subsurface interaction of water and to better comprehend spring hydrology, this study incorporates surface hydrological modelling and groundwater modelling.

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MEKHALA MITRA

Qualifications

MTech in Remote Sensing & GIS (Agriculture & Soils); BTech Agricultural Engineering

Area of Interest

Microwave Remote Sensing in crop monitoring studies

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, Google Earth Engine

Thesis

Tea Plantation Condition and Stage Monitoring Using Multisource Remote Sensing Data

Abstract

The condition and stage of tea are needed to be monitored because of its commercial importance. The cloud cover issue is crucial during monsoon in the context of the Indian subcontinent. Our study goal is to track cultural operations and assess the condition stress throughout the year with certain validation and to have a comparative study between crop stage and stress by the synergy of optical and SAR datasets.

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MOHD ARSLAAN AKHTAR

Qualifications

MTech in Remote Sensing & GIS (Geosciences);
MSc (Applied Geology)

Area of Interest

Cryospheric studies, Water Quality assessment, Landslide Monitoring and Risk Analysis, Crustal dynamics, Geophysical Investigation, Applications of deep learning in Geosciences, Object Based Image Analysis.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, eCognition, GMTSAR, Tableau, MS Office

Thesis

Optical and SAR based Characterization of Active rock glaciers in Western Himalaya.

Abstract

Rock glaciers are key geomorphic features of periglacial environments, typically tongue shaped and consist of a blanket of debris that insulates the ice core, and thus are considered to be sustainable water resource. Active rock glaciers are able to flow due to their ice content with a velocity of 1 to 100 cm/year. The present study deals with the detection and characterization of such active rock glaciers using both optical and SAR dataset.

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NALIN SHARMA

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
BTech (Computer Science & Engineering)

Area of Interest

Digital Image Processing, Automotive GIS, Machine/ Deep learning, Digital Image Processing, Disaster Risk Management, and Data Analytics.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, Python, R, MATLAB, Google Earth Engine

Thesis

Temporal Gap Filling of Nighttime Light Composites

Abstract

The DMSP Operational Linescan System (DMSP/OLS) acquires global daytime and nighttime imagery of the Earth. The NTL Data provided by DMSP-OLS has been found to have large gaps (missing values) across time in the case of distributed modeling. Therefore, the thesis aims to provide a scientifically valid gap-filling methodology that can be used to have consistent DMPS/ OLS time series data for long-term studies using Long-Short Term Memory Networks.

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NEHARIKA BHATTARAI

Qualifications

MTech in Remote Sensing &
GIS (Specialization:Water Resources);
BTech Civil Engineering

Area of Interest

Cryosphere Studies, hydrological and hydrodynamic modelling, Water body mapping and monitoring, Flood studies, Image processing, Machine Learning

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine. HEC-RAS, HEC-HMS, EPANET, SPPHY, SWMM, Blender, CROPWAT, SWAT, SWAT-CUP, MODFLOW

Thesis

High-resolution Spatio-temporal snow and glacier change assessment in Bhagirathi river basin

Abstract

Seasonal Snow covers and glaciers are key components of Himalayan hydrological cycle. An improved resolution of snow covered area at less than 500m could substantially improve the estimation of streamflow timing and volume. Present study focuses on generation of a high-resolution daily snow cover map using a data fusion technique by combining Landsat and MODIS data. The generated map is used to study the glacier and snow dynamics in the study area.

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NIRWAN

Qualifications

MTech in Remote Sensing & GIS (Urban & Regional Studies); B.Plan

Area of Interest

Data management and Application based Research in Urban Studies and Policy Formulation, Toolkit Development and Automation, Climate Change, Environmental Justice, Pollution Source Apportionment, Water Management, Smart City, Problem Solving Associated to

Software Skills

ArcGIS, QGIS, ERDAS Imagine, Python, R, Google Earth Engine, Java, HTML, AutoCAD, SketchUp, Adobe Photoshop, AdobeXD, Figma

Thesis

Understanding Air Pollution Dynamics and It's Spatial Sources over Delhi Region

Abstract

The study identifies the sources of criteria pollutants and establishes their seasonal contribution to the Delhi region. The study integrates pollutant levels with meteorological parameters to model the spatial sources of pollutants. To establish the significance of the location of activities in the contribution a modified CMB is developed. These activities are studied in detail by developing a source profile for potential contributors for 2019 using secondary data, ground-based data, and ANN.

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P DANUTA MOHAN

Qualifications

MTech in Remote Sensing & GIS (Natural Hazards & Disaster Risk Management); M.Sc Geology, B.Sc Geology

Area of Interest

Application of remote sensing and GIS in natural hazards and disaster risk management, vulnerability and hazard zonation mapping, environmental impact assessment, landside hazard zonation and modeling, monitoring landslide and land subsidence using SAR interferometry, flood zone mapping, impact of climate change.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, SNAP, Python, Google Earth Engine, hec-HMS,RAMMS,Google Earth Pro,Microsoft office, ILWIS, ENVI

Thesis

Understanding The Landslide Hazard In Parts Of The Uttarakhand Himalaya Using Eo-Based Data: From Causes To Early Warning

Abstract

It has become evident that landslides occur more frequently than they used to due to climatic changes. This research aims to utilize an integrated approach of combing different geospatial techniques for landslide hazard zonation. various climate parameters have been incorporated for the development of thresholds that initiate the occurrence of landslides along with the development of numerically simulated predictive models to support the landslide early warning.

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POOJA UTTAM DATIR

Qualifications

MTech in Remote Sensing & GIS (Water Resources); B.Tech. in Agricultural Engineering

Area of Interest

Irrigation Water Management, Evapotranspiration, Watershed Development, Watershed Prioritization, Hydrological and Hydrodynamics Modelling, Satellite Altimetry, Energy Balance Algorithms, Water quality mapping and monitoring, surface water hydrology, Thermal Remote Sensing, Crop-Water.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, R, Google Earth Engine, eCognition

Thesis

Parameterization of RUSLE using advanced remote sensing data.

Abstract

This project deals with the multitemporal satellite rainfall data TRMM and GPM merged (IMERG) for the computation of rainfall erosivity factor (R) as well as multi-sensor approach for the estimation of the Cover Management Factor (C) for the improvement in the RUSLE model.

pratikgfulkar@gmail.com

PRATIK GAUTAM FULKAR

Qualifications

MTech in Remote Sensing & GIS (Geosciences);
M.Sc. Applied Geology

Area of Interest

Mapping, monitoring and modelling of landslide, engineering geological study for slope stability analysis and infrastructure development. Glacier morphology, spatio-temporal dynamics and climate change study. Hyperspectral image analysis for mineral abundance mapping and targeting. Exploring dwarfing as a stress signal in cretaceous planktic microfossils.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Google Earth Engine, Roc Science, Rock works, Slope/w Geoslope, PLAXIS, RS2, RAAMS, Open Stereo, Inkscape, CorelDraw, Fiji ImageJ, HEC-RAS

Thesis

Characterisation Of High Altitude Mass Movement And Related Glacial Hazards Using EO Data In Parts Of The Upper Bhagirathi Basin

Abstract

High Altitude Mass Movements (HAMM) comprise one of the main
morphogenetic processes in the relief of the foreground of the Upper Bhagirathi basin in UK, India. This study focuses on performing EO based glacial and related hazard zonation using geospatial techniques and analyzing the combined effects of cryospheric, geological and topographical aspects leading to slope failure. The study further focuses on the modelling of selected mass movement processes in the and high vulnerability zone.

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RAHUL DAS

Qualifications

MTech in Remote Sensing & GIS (Geosciences);
MSc Applied Geology

Area of Interest

Landslides, Geodynamics, Planetary Science, SAR, Artificial Intelligence and Machine learning

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, eCognition, Geoserver, GMT,GMTSAR,

Thesis

Understanding the role of causative/triggering mechanisms in initiation of landslides and characterization of related surface deformations in parts of the Uttarakhand Himalaya

Abstract

Landslides are the recurrently occurring natural hazards in the fragile ecosystems of Himalayas causing threats to life and properties. In my thesis I am using Deep Learning and Object Based Image Analysis(OBIA) in order to relate the temporal variation of landslides with the geology of the terrain and Machine Learning algorithms to map the potential succeptible zones. As a support to early warning, advance DInSAR methods are used to detect the slow surface deformations of the active landslides.

ramyaa0506@gmail.com

RAMYAA R R

Qualifications

MTech in Remote Sensing &
GIS (Marine & Atmospheric Sciences);
Int. MSc Physics (Hard Condensed Matter)

Area of Interest

Air Quality & Pollution Studies, Atmospheric & Cloud Modelling, Meteorology, Geospatial Application for Natural Resource Management, Trace Gas Detection, Atmospheric Chemistry, Emissions estimation, Data science & Machine/ Deep Learning, Coastal Geomorphology, Climate change.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, C, OriginLab , GrADS ,IDRISI taiga

Thesis

Modelling of Urban Surface Ozone Variability using Machine Learning Algorithm

Abstract

The influence of machine learning technologies is rapidly increasing and penetrating almost in every field and air pollution prediction is not being excluded from those fields. The goal of the study is to apply Machine learning models to simulate the variability of Urban ozone over Northern Indian region. The model will be trained with past variations in ozone, in situ and meteorological conditions.

rokaderachana@gmail.com

ROKADE RACHANA RAJENDRA

Qualifications

MTech in Remote Sensing & GIS (Agriculture & Soils);
BTech Agricultural Engineering

Area of Interest

Watershed Development and planning, Soil erosion modelling, Soil quality, Crop Suitability, Crop classification, Drought Assessment.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, Google Earth Pro, GrADS, R Studio, MS Office

Thesis

Mapping of Soil Erosion Hotspots in a Watershed of Himalayan Landscape using Erosion Model and Machine Learning Method

Abstract

Soil erosion is a serious threat in the hilly and mountainous region. Thus the identification of soil erosion prone areas is important for soil water conservation measures at the watershed level. The study involves the objectives to characterize the soil, LULC , terrain parameters for the study area of Bhagirathi watershed, to study spatial distribution of erosion risk using the empirical model and lastly to identify erosion hotspot areas using machine learning techniques.

samhitha.bollepally@gmail.com

SAMHITA BOLLEPALLY

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
B. Tech in Civil Engineering

Area of Interest

Geospatial, Geotechnical, Astronomy, Concrete tech, Web development, Machine Learning/DL approaches on climate change

Software Skills

ArcGIS, QGIS, ERDAS Imagine, Python, R, Google Earth Engine, Geoserver, Javascript, AutoCAD, PostGIS, ML,DL

Thesis

Machine Learning-based Phenology Extraction and Crop Classification using Sentinel 2 Time Series Data.

Abstract

An approach to finding crop-growing stages and extraction based on statistical and ML algorithms and to justify the appropriate method. Additionally, ML-based crop classification using extracted phenology metrics using time series data.

sarunisha267@gmail.com

SARUNISHA R

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
B.E. Computer science and engineering

Area of Interest

Hyperspectral Remote sensing, Target detection applications, Data analytics, Health GIS, Crime GIS, Climate change studies and Predictive modelling

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, R, MATLAB, Google Earth Engine, Geoserver, PostgreSQL, Weka, Knime analytics, Informatica

Thesis

Photovoltaic solar panel detection in an urban environment from airborne hyperspectral imagery using deep ensemble model

Abstract

Promoting the use of green energy options by governments of developed and developing countries and the leverages that can be obtained by doing so has increased the rate of installations of Solar photovoltaic panels. The study focuses on identifying solar panels in a complex Indian urban environment from high resolution airborne hyperspectral imagery using a deep ensemble model to obtain detailed information regarding the functional solar systems their localisation and energy production.

smdrayyan111@gmail.com

SHAIK MOHAMMED RAYYAN

Qualifications

MTech in Remote Sensing & GIS (Urban and Regional Studies); B.Plan Urban Planning

Area of Interest

Remote Sensing, Urban Design, Solar

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, R, Google Earth Engine, eCognition, AutoCAD, Revit, SketchUp, Blender, Photoshop, Illustrator, MS Office

Thesis

Assessment of Rooftop Solar Power Potential and development of Web-GIS Tool, Gandhi Nagar, Gujarat

Abstract

The study focuses on improving the solar rooftop estimation through increasing the accuracy of associated variables. The accuracy of DSM is increased by fusion of ICESat-2 Space borne LiDAR data. The building footprint is extracted from satellite imagery using deep learning technique. The solar rooftop potential is estimated using Clear Sky Hemispherical Viewshed Model and the results are used to develop an interactive Web-GIS platform.

pancholis724@gmail.com

SHRUTI PANCHOLI

Qualifications

MTech in Remote Sensing & GIS (Satellite Image Analysis & Photogrammetry); B.Tech- Information Technology

Area of Interest

Digital Image Processing, Algorithm Development, Deep learning for Satellite Image analysis, Machine Learning for image classification, Crop Modelling and monitoring, SAR, Climate change

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, Google Earth Engine, PostgreSQL, C.C++,eCognition, MS Office

Thesis

Study of fuzzy machine and deep learning model for sugarcane plant and ratoon crop mapping

Abstract

Spectral overlap introduces the problem of non-linear separation between spectrally similar classes. Heterogeneity exists within a single land cover class due to various factors. This study aims to handle the non-linearity and heterogeneity for the sugarcane crop sub-classes- plant and ratoon through a fuzzy Kernel-based Modified Possibilisitc c- Means (MPCM) function with ISM training. A comparison will also be drawn between the fuzzy approach and a deep learning-based classification approach.

soumen.singhadeo@gmail.com

SOUMEN SINGHADEO

Qualifications

MTech in Remote Sensing & GIS (Urban & Regional Studies); B.Tech Civil Engineering

Area of Interest

Urban and Regional Planning, Land use Mapping and Planning, Urban Area Analysis, Urban Growth Modelling and Monitoring, 3D City Modelling, Object based image analysis(OBIA) , UAV data processing, DEM analysis, Thermal remote sensing , Urban land surface temperature, GPS, LiDAR, Cartography, Photogrammetry, Microwave Remote Sensing , Web GIS, Site Suitability Analysis, Smart Cities, Drone mapping.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, eCognition, Blender, Fragstats, Open Data Kit (ODK),Autocad 3D & 2D , Revit ,Sketchup, Idrisi, Google earth pro, Microsoft Office.

Thesis

A GEE based approach for assessment of spatio-temporal urban growth dynamic of class-I cities in Uttarakhand

Abstract

The present study analysed the spatio-temporal land-use patterns and urban growth trend in the city level over 30 year in the class-I cities of Uttarakhand with the help of landscape metrics.The spatio-temporal urban growth monitoring through these GEE based automation tool help the town planners to manage and take better planning to build sustainability for livelihood. This automation procedure mechanization through programming increases the study's applicability to cities all around the world.

rokaderachana@gmail.com

SOUMYADEEP ROY

Qualifications

MTech in Remote Sensing & GIS (Marine & Atmospheric Sciences); M.Sc (Atmospheric Science), B.Sc Physics (Hons)

Area of Interest

Physical Meteorology, Dynamic Meteorology, Numerical Weather Prediction, Climate Models, Monsoon, Extreme Rainfall Events, Atmospheric River, Cloud Microphysics, Aerosol.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, R, MATLAB, Google Earth Engine, WRF-ARW, NCL.

Thesis

Tropical & extra-tropical circulations and its associations with the meteorological processes in high mountain Asia (HMA)

Abstract

The study includes investigation of the spatial and temporal variations of tropical and extra tropical circulations and its association with rainfall variability in HMA region using reanalysis datasets. Changes in the circulations over HMA region will also be scrutinized under future projections (SSP 2-4.5 & SSP 5-8.5) using CMIP6 models. Validation of the historical simulations will be done using reanalysis datasets.

sukirtis21@gmail.com

SUKIRTI

Qualifications

MTech in Remote Sensing & GIS (Agriculture & Soils); BSc Agriculture

Area of Interest

Soil Erosion, Climate Change, Yield Prediction, Soil Quality, Artificial Intelligence in Agriculture, Environmental Monitoring

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, SAGA GIS

Thesis

Modelling Soil Erosion Vulnerability under Climate Change scenarios in a watershed of Himalayan region using Machine Learning

Abstract

Soil erosion is one of the most serious problems which is affected by climate change, particularly the increasing intensity of rainfall. Global climate change could strongly affect the capability of soils to sustain agriculture and in turn impact food security. The objectives of the study are to downscale global climate model data to quantify the impact of climate change on soil erosion and to estimate the current and future soil erosion of the study area.

tamalsamaddar@gmail.com

TAMAL SAMADDAR

Qualifications

MTech in Remote Sensing & GIS (Geosciences); M.Sc Applied Geology

Area of Interest

InSAR, DInSAR, Planetary Sciences, PolSAR, Impact Crater, Hyperspectral Remote Sensing, Mineral Exploration, AVIRIS-NG, Alteration Mineral Mapping, Digital Image Processing, Landslide susceptibility mapping, Disaster Management, Seismicity, Reservoir induced seismicity.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, Geoserver, PCI Geomatica, JMARS, Rockworks, Grapher, Surfer, PolSAR Pro, MIDAS, CorelDraw, Blender.

Thesis

Multi Frequency and Polarimetric SAR Data Analysis for characterization of Lunar Surface/Sub-Surface Properties at selected locations.

Abstract

Mapping of impact crater ejecta and associated features constitutes a very important part of the morphological characterization and evolution history of the crater and by extension the evolution of moon. Proper utilization and integration of sub surface information are required for a concise understanding of the crater impacting process and subsequent crater modification processes. The major aim of this study is to integrate PolSAR dataset with optical dataset for effective crater morphological/structural mapping. This is to further characterize the impact craters' structure, age determination, regolith information and interplay with the subsequent crater modification processes like mass wasting operating over it.

upasanajha486@gmail.com

UPASANA JHA

Qualifications

MTech in Remote Sensing & GIS (Agriculture & Soils);
B.Tech Agricultural Engineering

Area of Interest

Soil Erosion modelling, Spatial prediction modelling using Machine Learning, Soil Productivity, Soil Quality, Digital soil mapping, Hydrological modelling, Climate change studies, Crop monitoring.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, Google Earth Engine, MS Office, Google Earth Pro

Thesis

Geospatial Assessment of Soil Productivity Potential in Agricultural area in a Watershed of Himalayan Landscape using Machine Learning Techniques.

Abstract

In this study the spatial variability of productivity index (PI) and soil organic carbon (SOC) will be analysed to assess area under varying soil productivity potential in the watershed of Mid Himalayan region.The Machine learning algorithm -Random Forest (RF) will be then applied for spatial prediction modelling for Soil Organic Carbon Density (SOCD) and Productivity Index (PI) and then integrating the two for the criteria analysis of soil productivity potential.

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VAISHNAVI UDAY HONAP

Qualifications

MTech in Remote Sensing & GIS (Natural Hazards & Disaster Risk Management);
BTech Planning

Area of Interest

Sustainable Development, Disaster Risk Assessment, Energy Efficiency, Climate Change and Radiative Forcing, SAR Processing for Flood, Satellite Altimetry, Infrastructure Planning, Urban Growth, Network Analysis

Software Skills

ArcGIS, QGIS, SNAP, Python, R, Google Earth Engine, ERDAS Imagine, Geoserver, SQL, DSFA, BRAT, Surfer, AutoCAD, Blender,Idrisi, ENVI, AWS, Power BI

Thesis

Synergetic use of multi-mode synthetic aperture RADAR for characterization of flood dynamics

Abstract

The Orang Park situated in flood plains of the Brahmaputra River is a flood-prone area. SAR data have shown to be useful for flood plain studies. Flood plain mapping using SAR data have been most investigated application, yet the backscattering similarity of classes presents challenge. The study utilizes the properties of radar backscatter, altimetry, and polarimetric decomposition parameters of the Sentinel-1 C dataset to characterize flood dynamics.

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VIGNESWARAN S

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics);
B. E. (Geoinformatics)

Area of Interest

Big Data, Distributed Computing, Cloud Computing, Spatial Data Analytics, WebGIS, Programming, Full-Stack Development

Software Skills

ArcGIS, QGIS, ERDAS Imagine, R, Python, JavaScript, GeoServer, Git, PostGIS, SQL-on-Hadoop

Thesis

SQL-on-Hadoop based Framework for Spatial Big Data Processing and Analytics

Abstract

Hadoop is the de facto technology for big data analytics. A set of tools known as SQL-on-Hadoop combines SQL-style querying with Hadoop framework elements, making Hadoop accessible to a wide spectrum of users. Since there are numerous SQL-on-Hadoop tools with spatial data support, the study aims to benchmark the available systems. A SQL-on-Hadoop framework is developed based on experiment's findings. A Proof of Concept of the framework is done by performing spatial analysis on crime datasets.

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VIPUL MALHOTRA

Qualifications

MTech in Remote Sensing & GIS (Agriculture and Soils); B.Sc. Hons. (Agriculture)

Area of Interest

Climate Change,Precision Agriculture, Sustainable Agriculture, Artificial Intelligence in agriculture, agro ecological zonning, crop risk modeling, machine learning for crop inventory, climate change, agro-meteorology, crop condition assessment, nutrient management

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, MATLAB, Google Earth Engine, eCognition, Geoserver

Thesis

Identification of Potential Sites for Horticultural Plantation Crops of Hilly & Mountainous Area of Himalayan Landscape using MCDM & MaxENT Model

Abstract

Horticulture accounts for 33% of agricultural output, yet it is practiced on a very small scale. Especially in hilly areas where horticulture can be profitable. This study aims to identify potential sites for fruit crops in hilly and mountainous areas of the Himalayan landscape using the fuzzy MCDM and MaxENT models for current and future climate change scenarios.

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VIVEK KUMAR

Qualifications

MTech in Remote Sensing & GIS (Geoinformatics); BTech Electronics and Communication Engineering

Area of Interest

Application of remote sensing and GIS to understand glacio-volcanism, Remote Sensing of climate change, SAR data processing and analysis (sar interferometry), Hyperspectral remote sensing, Application of machine learning in remote sensing.

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, R, Google Earth Engine, NumPy, Pandas, scikit-learn, xarray, Seaborn, D3.js, Django, JavaScript, MySQL, PowerBI, Tableau, Postgres GIS, Red Hat Enterprise Linux, Windows Server, Microsoft Office.

Thesis

Web GIS technology to analyse and visualize weather geospatial anomaly of Pine island glacier. Western Antarctic ice sheet.

Abstract

Climate change has impacted Pine Island Glacier; it flows at rates of up to 4000 m per year. Also, the region lies to the south of Hudson mountain ranges which is said to be volcanic. A Web GIS tool will help map the geospatial anomalies of the region and build a better understanding of the area.

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YAMINI AGRAWAL

Qualifications

MTech in Remote Sensing & GIS (Satellite Image Analysis & Photogrammetry); B. Tech (Electronics and Communication)

Area of Interest

Digital Image Processing, Machine Learning/Deep learning, Environmental impact assessment, Algorithm Development, Optical remote sensing, Data Analytics, Climate Change studies

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, Python, MATLAB, Google Earth Engine, eCognition, C/C++, PSpice, Arduino IDE, Atmel Studio

Thesis

Scalable Framework for Deep Learning Based Detection and Segmentation of Brick Kilns using Satellite Images

Abstract

UN SDG 8.7 have characterized brick kilns as form of modern-day slavery. They are a source of significant air pollution as well. A scalable framework using deep learning based models for detection and segmentation of brick kilns is proposed. Also, mapping of active and abandoned brick kilns using time series data is done. High-resolution satellite images of Google Earth, Cartosat-3 PAN and LISS-IV data is used. Scalable framework is created based on the performance of the neural network model.

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 tIIRS and the Faculty of Geo-information Science and Earth Observation (ITC) of the University of Twente (UT), The Netherlands.

The course is of two year 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:

Year	Quartile	Course	Location
1	Q1	Core	IIRS
		Academic Skills	IIRS
1	Q2	Scientific Geocomputing	IIRS
		Acquisition and Exploration of Geospatial Data	IIRS
		Academic Skills	IIRS
1	Q3	Elective Course	IIRS
		Extraction, Analysis and Dissemination of Geospatial Information	IIRS
		Academic Skills	IIRS
1	Q4	Elective Course	IIRS
		Global Challenges, Local Action	IIRS
		Academic Skills	IIRS
2	Q5-6	MSc Research (proposal), Individual study programme & MSc Research	ITC
2	Q7-8	Internship, MSc Research and Thesis Defence	IIRS

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ABHISHEK RAWAT

Qualifications

M.Sc. (Geoinformatics); B. Plan (Urban and Regional Planning)

Area of Interest

Remote sensing, Urban planning, Transportation planning, Machine/Deep Learning, Web GIS, LiDAR, 3D simulation modelling.

Software Skills

Python, R studio, Full Stack Development, Google Earth Engine, ArcGIS, QGIS, ERDAS Imagine, SQL, PostgreSQL, ArcGIS Pro, AutoCAD, ENVI, Rhino, Grasshopper, Photoshop and Illustrator

Thesis

Deep Learning for Built-up Fractional mapping using Multispectral Satellite Images

Abstract

The increase in population has seen unprecedented growth over the decade, as has the built-up cover. These have been a cause of climate change, particularly urban heat island effects. Monitoring and built-up mapping areas globally is a necessity and a challenge. Various researchers have worked on this issue using Indices, fuzzy approach, and machine and deep learning techniques. But only a few have done it at a large scale because of either unavailability of training samples or that of satellite imagery with either high spectral (hyperspectral) or high spatial (VHR multispectral or SAR), which are suitable for determining built-up boundaries/cover Fractional cover is a term being exploited in the forest or vegetation mapping where the class is assigned in terms of [0,1] membership, much like what we see in the fuzzy approach, but, its usage in built-up mapping at large scale still needs to be present. This study is focused on producing large-scale built-up fractional cover maps using Sentinel MLI imagery with a novel context-aware deep learning model.

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AMAN TIWARI

Qualifications:
MSc (Geoinformatics)
B.tech (Geosciences)

Area of Interest:

Web Development, 3D-GIS, Data Visualization, JavaScript, Digital Image Processing, Spatial Data Handling

Software Skills:

ArcGIS Products, QGIS, City Engine, ArcGIS Pro, ERDAS, Blender, Sketchup, Python, R, SQL, GeoServer,

Thesis:

A framework for the development of web GIS based 3D simulation of flood

Abstract:

Hydrodynamic models for floods are complex, require many parameters, and can be costly to acquire data for. They are important for detailed studies, but in times of crisis, a rapid flood model is needed. This thesis aims to develop a web-based framework which can be used for rapid flood modelling based on the "Height Above Nearest Drainage" (HAND) model and visualize the flood simulation in 3D. All the calculations and visualizations will be on the web. The platform will aid decision-makers, governments, relief teams, other stakeholders, and everyday people in managing disasters more effectively.

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DHANASEKARAN K

Qualifications

MSc – Geoinformatics
B.E. - Geoinformatics

Area of Interest

Forestry, Oceanography, Data Processing, Image Interpretation.

Software Skills

Python, Google Earth Engine, PostgreSQL, QGIS, ArcGIS, ERDAS, Microsoft Word, Excel, PowerPoint

Thesis

Deep Learning based fire forecasting for the Indian state of Uttarakhand.

Abstract

Fire forecasting is an important phase of firefighting. Fire involves numerous variables that affect its behavior. A deep learning-based model is prepared to find the relationship between the variables and to prepare fire forecast maps.

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LAKSHMI BABURAJAN

Qualifications:

M.Sc. (Geoinformatics)
B.Tech. (Civil Engineering)

Area of Interest

Digital Image Processing (Optical/Microwave), SAR Data Processing, Calibration Models, Flood Modelling, Data Visualization, RS and GIS Applications

Software Skills

Python, R, MATLAB, Google Earth Engine, ArcGIS, QGIS, ERDAS Imagine, ENVI, SNAP, PolSAR Pro, Blender, eCognition, SQL, AutoCAD, PostGIS, Ilwis

Thesis

Scattering - based Characterization of Manmade and Natural Features for Polarimetric Calibration of SAR Images

Abstract:

Synthetic Aperture Radar, an active remote sensing technique in the microwave region, is considered to be a comprehensive way to compute the backscattering information of the targets. Accurate determination of the backscattering coefficients of targets and elimination of the SAR signal errors is a prerequisite which is done through. However, most of the calibration models use external calibrators which makes it complicated for the scenes which do not have one. Thus, the study will build a method to solve the polarimetric distortion matrix using polarimetric parameters and polarimetric decompositions that accommodates existing natural targets in the scene, thus gives less stress on the availability of corner reflectors.

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SARUSHI BARI

Qualifications

M.Sc. (Geoinformatics); M.Sc. (Geology)
B.Sc. (Geology)

Area of Interest

SAR Data Processing, Google Earth Engine, Interferometry SAR, Data Visualization, GIS and RS Applications

Software Skills

ArcGIS, QGIS, Python, ERDAS, Blender, SNAP, MATLAB, ILWIS, SNAP, eCognition

Thesis

Kinematics modeling and prediction of landslides in Himalayan Terrain using InSAR

Abstract

Due to a variety of triggering reasons, landslides frequently occur in hilly terrains, causing fatalities as well as infrastructure and property damage. For determining the landslide-triggering elements, it is crucial and fascinating to continuously observe the kinematics of slides and forecast when they will occur. This study uses pre-landslide synthetic aperture radar (SAR) data and cutting-edge spaceborne SAR interferometry techniques to develop a comprehensive methodology for continuous monitoring, modeling the kinematics of landslide affected areas, and prediction of landslides in a hilly terrain with steep slope (InSAR). The results of this study's time-series deformation and prediction are highly helpful as an input for landslide early warning systems and reducing landslide threats.

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shaifaligargiirs@gmail.com

SHAIFALI GARG

Qualifications

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

Area of Interest

PolSAR, Radar, Remote Sensing, Radar Planetary Studies, Machine Learning

Software Skills

Python, R, Google Earth Engine, SQL, ArcGIS, ERDAS Imagine, ENVI, SNAP, PolSARPro, QGIS,

Thesis

Dielectric Estimation and Characterisation of the Lunar Surface Using Chandrayaan-2 DFSAR data

Abstract:

The primary goal of this project would be to calculate the dielectric constant of the lunar surface to comment on the presence of water-ice clusters in the Permanently Shadowed Regions on the Lunar South Pole. This study also aims at studying different target scattering patterns to reveal more information about the surface and subsurface of the moon.

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SHIVANSHI YADAV

Qualifications

M.Sc. (Geoinformatics), B. Tech (Agricultural Engineering)

Area of Interest

Remote sensing and GIS applications in agriculture, Hydrological modelling, Image Processing, Machine Learning, GRACE Image Processing, Site Suitability Analysis, Water Resources

Software Skills

ArcGIS, QGIS, ERDAS Imagine, SQL, R, Python, MS Office, Google Earth Engine, LISEM, eCognition, Blender, ilwis, PostgreSQL, and PostGIS.

Thesis

Estimating spatially distributed change in groundwater storage in the Mahanadi Basin

Abstract

Groundwater amounts for nearly 30 percent of the world's freshwater reserves, and it plays a crucial role in the water-food-energy nexus. India currently extracts the world's largest amount of groundwater i.e., more than 25% of global water abstraction. Therefore, increasing the number of places with groundwater stress increases the importance of quantifying the groundwater storage change. Thus, this project aims to put forward a provision to downscale GRACE derived change in terrestrial water storage and estimation of change in groundwater storage with all the freely available parameters and derived surface water parameter.

tusharkatkar57@gmail.com

TUSHAR HIRALAL KATKAR

Qualifications

M.Sc. (Geoinformatics)
B.Tech. (Agricultural Engineering)

Area of Interest

Feature extraction, Context aware deep neural network, Semantic image segmentation, Agriculture, Irrigation Canals, Image processing, Data Science, Satellite Image Processing, Machine/Deep Learning

Software Skills

Python, R, SQL, Google Earth Engine, ArcGIS, QGIS, ERDAS Imagine, Envi, SNAP, eCognition, ILWIS, MATLAB, PostgreSQL,Blender

Thesis

Deep learning approach for extracting irrigation canal

Abstract

The use of different image segmentation architectures such as U-Net, SegNet, and DeepLab v3+ is done on different spatial resolution satellite imageries for extracting irrigation canals. To solve multi-resolution problem the architectures are updated, and to improve the accuracy of extracted feature the contextual information is used (context-aware deep neural network). The effect of deep learning architecture on different spatial resolution is evaluated.

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UJJWAL KUMAR SWAIN

Qualifications

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

Area of Interest

Machine and Deep Learning, Image Fusion, Semantic Segmentation, Hyperspectral Imagery processing, SAR, Hydrology, Hazard assessment and prediction modelling.

Software Skills

ArcMap, ArcGIS Story Maps, Erdas Imagine, ENVI, QGIS, SNAP, HEC-HMS, HEC-RAS, PolSAR Pro, Python, RStudio, Google Earth Engine, eCognition Developer, MATLAB, AutoCAD, SketchUp, Lumion

Thesis

Multimodal Fusion of Hyperspectral and fully Polarimetric Synthetic Aperture Radar data for improved Land Use land cover classification using Deep neural networks

Abstract:

Land use land cover (LULC) classification is an essential aspect of satellite remote sensing. However, information received from the single sensor for complex landscape pattern give rise to difficulty in distinguishing the spectrally similar features which affect LULC classification and accuracy. To tackle this hurdle, Image Fusion can be an efficient solution since it decreases the trade-off between spectral and spatial resolution. The main goal of the dissertation research is to use a deep neural network to perform a multimodal fusion of hyperspectral and fully polarimetric SAR data to generate a better land use land cover (LULC) classification. In addition, to perform a detailed comparative analysis of the fused product with individual PRISMA HSI and EOS-4 SAR imagery.

PG Diploma in Geoinformatics (2022-23)

PGD in Geo-information Science and Earth Observation (specialisation/domain: Geoinformatics) is offered within the framework of Joint Education Programme (JEP) of the 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
Q1	Core Academic Skills
Q2	Scientific Geocomputing Acquisition and Exploration of Geospatial Data Academic Skills
Q3	Elective Course Extraction, Analysis and Dissemination of Geospatial Information Academic Skills
Q4	Elective Course Individual Project, Report Writing, Evaluation Academic Skills

ambopaji@gmail.com

AMBORISH HAZARIKA

Qualifications:

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
M.Sc. Geology, B.Sc. Geology

Area of Interest

Geological Mapping, Groundwater Potential Zone Identification, Hyperspectral Remote Sensing, GIS Analysis, Digital Image Processing, Data Analytics

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, R, Google Earth Engine, eCognition, Geoserver, SQL, GDAL

2810.anushka@gmail.com

ANUSHKA

Qualifications:

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
M.Sc. Ecology and Environmental Science, B.Sc. Zoology

Area of Interest

Forest mapping and Monitoring, Environmental Impact Assessment GIS, Natural hazard and Disaster monitoring, Site Suitability Analysis along with LULC modelling, Digital Image Processing

Software Skills

ArcGIS, QGIS, ERDAS Imagine, Python, Google Earth Engine, Adobe Photoshop, PostgreSQL

gokulrajkamath96@gmail.com

GOKUL R KAMATH

Qualifications

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
M.Sc. Physics, B.Sc. Physics

Area of Interest

Remote Sensing and GIS applications in Disaster Studies, Hydrological Modeling, Physics in Remote Sensing, Solar Physics, Stellar evolution and Planetary Sciences, Data Driven Astronomy, Image Processing

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, R, Google Earth Engine, Geoserver, Scilab, C++, SQL, GDAL

komalkumari382@gmail.com

KOMAL KUMARI

Qualifications:

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
M.Sc. Environmental Science (specialization: Earth and Atmospheric Science), B.Sc. Forestry

Area of Interest:

Application of Remote Sensing and GIS in Forest study and mapping.

Software Skills:

ArcGIS, QGIS, ERDAS Imagine, Python, R, Google Earth Engine

v.kumar7117@gmail.com

NARENDRA KUMAR

Qualifications

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
B.E. Agriculture Engineering, Diploma in Agricultural Technology

Area of Interest

Remote Sensing and GIS Applications in Crop Monitoring and Assessment, Crop Phenology, Hyperspectral Remote Sensing, Climate Change, Spatial Analysis, SAR Image Processing

Software Skills

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

noorladkhan@gmail.com

NOOR LADKHAN

Qualifications

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

Area of Interest

Application of Geospatial Technologies in AEC Industry and Sustainability, Laser Scanning, Hydrological Modelling, Water Resources, GIS Applications in Logistics and Mobility, LBS (Location Based Services)

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, R, Google Earth Engine, Geoserver, JavaScript, GDAL, SQL, AutoCAD, SketchUp

rachit.knl@gmail.com

RACHIT

Qualifications

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
Integrated B.Tech (Civil Engineering) + M.Tech (Environmental Engineering)

Area of Interest

Remote sensing and GIS application in Environmental conservation, Climate Change, Pollution Monitoring & Control, Waste management, Hydrological modelling and Agriculture

Software Skills

ArcGIS, QGIS, ERDAS Imagine, ENVI, Python, R, Google Earth Engine, Geoserver, GDAL, PostgreSQL

vermautkarsh28@gmail.com

UTKARSH

Qualifications

PGD in Geoinformation Science & Earth Observation (specialization: Geoinformatics)
M.Sc. Geology, B.Sc. (Hons.) Geology

Area of Interest

Application of Remote sensing and GIS in Geology, Glaciological studies, mining, Oceanography, Climatology, Geomorphology, Natural hazard management and study of climate change impacts.

Software Skills

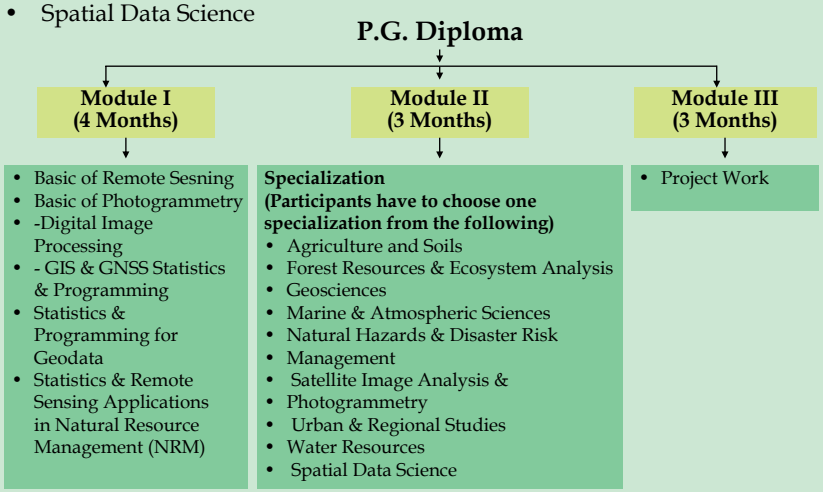
ArcGIS, QGIS, ERDAS Imagine, Python, R, Google Earth Engine, Geoserver, CorelDRAW

The PG Diploma programme aims to provide in-depth understanding

of remote sensing, satellite image analysis, GIS and GNSS technologies and their applications in various fields viz., Agriculture & 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 PGD			
Agriculture & Soils Land Use & Soil Resource Assessment Agri-informatics Environmental Soil Science Satellite Agro-meteorology	**Forest Resources & Ecosystem Analysis** Forest Mapping & Monitoring Forest Inventory Forest Informatics Forest Eco-System Analysis	**Marine & Atmospheric Sciences Satellite** Oceanography Satellite Meteorology Coastal Processes and Marine Ecology Atmospheric and Ocean Dynamics	**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	**Satellite Image Analysis & Photogrammetry** Emerging Sensors and Data Processing Image Processing Algorithms Digital Photogrammetry and Mapping Mathematical Computing for Geospatial data analysis	**Natural Hazards & Disaster Risk Management (NHDRM)** Natural Hazards and Disaster Management: Concepts & 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	**Water Resources** Satellite Hydrology Watershed Hydrology and Conservation Planning Water Resources Development Water Resources Planning Management
	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	**Spatial Data Science** Big Data Analysis Machine Learning Programming for Geodata Processing Spatial Modelling and Data Assimilation	

masiwalabhay@gmail.com

ABHAY MASIWAL

Qualifications:

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

Area of Interest:

Application of Remote Sensing and GIS in Water Resources - Planning & Management, River Meandering, Stochastic Hydrology, Groundwater and contaminant hydrology, Rainwater harvesting, Reservoir operation and optimization, Flood Risk Management, Rainfall-Runoff Modelling, Dam Break Studies, Climate Change Assessment, GPS, LiDAR, Cartography, Site suitability SAR & Hyper-spectral Remote Sensing

Software Skills

Python, R Studio, HEC-RAS, ANSYS Fluent, HEC-HMS, ArcGIS, SNAP, ENVI, ERDAS, QGIS, Google Earth Pro., STAAD Pro vsi8, AutoCAD

akankshathapa2018@gmail.com

AKANKSHA THAPA

Qualifications

M.Sc (Environmental Sciences)
B.Sc (Botany, Zoology and Chemistry)

Area of Interest

Ecological Niche Modeling, Environmental Impact Assessment, Forest Spatial Ecology, Climate-Change Ecology, Biodiversity assessment and conservation, Crop Monitoring, Biomass Assessment, Habitat Suitability Analysis, Carbon Sequestration, Glaciology.

Software Skills

Python, R, ERDAS imagine, QGIS, SNAP, ArcGIS, Google Earth Pro, Adobe Photoshop, Microsoft Office (Word, Excel, Power Point)

ankita9876nayak@gmail.com

ANKITANAYAK

Qualification

PGD in Remote Sensing & GIS(Specialisation:Water Resources)
B.Tech in Civil Engineering
GATEQualified(Twice)

AreaofInterest

Microwave Remote Sensing, StereoandSatellitePhotogrammetry, Hazard Modelling, Hydroclimatology, Surface Water Hydrology.

SoftwareSkills

R, Python, ERDASImagine, QGIS,Modflow, HEC-RAS, ArcSWAT, AutoCAD, Microsoft Office, HEC-HMS, EPANET

apoorvamalviya10@gmail.com

APOORVA MALVIYA

Qualifications

PGD in Remote Sensing and GIS (Specialization: Geosciences)
MSc (Geology)
BSc (Computer Science, Mathematics, Geology)

Area of Interest

Glacier Inventory and Change Assessment, Himalayan Glaciers, Cryospheric Science, Climate Change Analysis, Himalayan Geology, Environmental Impact Assessment, Wildlife Protection, Exploration & Expedition, Planetary Science, Lunar Studies, InSAR, DInSAR & PolSAR Applications, 3D GIS.

Software Skills

Basic programming Knowledge of C++, HTML, JAVA, SQL, and Python.
Research level Knowledge of ArcGIS, QGIS, ERDAS Imagine, Google Earth Pro, Microsoft Office.
Basic knowledge of ENVI, SNAP, R, PGAdmin, Geoserver, Visual Studio Code.

aoron1105@gmail.com

ARUNIMA CHAKRABORTY

Qualifications:

PGD in Remote Sensing and GIS (Specialization: Agriculture and Soils)
M.Sc.(Agriculture): Soil Science and Agricultural Chemistry
B.Sc. Honours (Agriculture)

Area of Interest

Soil Quality and Soil Health, Soil Chemistry and Fertilizers, Micro-Organisms in Soil, Artificial Intelligence in Agriculture, Soil Degradation Assessment, Crop Classification, Carbon Sequestration, Nano-Fertilizers, Bio-Remediation, Soil Structure and Physical Properties of Soil, Crop Phenology, Manures and Bio-Fertilizers.

Software Skills

R, Python, Arcgis, QGIS, ENVI, Erdas Imagine, Snap, Grads, Google Earth Engine.

AYUSHI PANDEY

Qualifications

PGD in Remote Sensing and GIS (Specialization: Water Resources)
B.Tech. (Civil)

Areas of Interest

Hydrologic modelling; Watershed conservation planning; Flood mapping; Soil erosion and sediment yield modelling; Surface and ground water studies; climate change impact assessment; Water Quality analysis and Data Processing; Waterlogging Delineation.

Software Skills

Python; R; ERDAS Imagine; QGIS; Microsoft (Word, Excel, PowerPoint); SNAP; AutoCAD; Revit; STAADPro; STAADFoundation; Open Roads; Oracle Primavera; Microsoft Projects

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leninebarath@gmail.com

BARATHANJAN LENINE KL

Qualifications

PGD in Remote Sensing & GIS (Specialization: Marine and Atmospheric Science);
M.Sc. Applied Geology

Area of Interest

Remote Sensing
GIS and Applications
Digital Image processing
Geomorphology
Atmospheric Science in Remote Sensing
Meteorology
Climate change studies
Weather predictions
Coastal geomorphology
Physical oceanography

Software Skills

Python, ERDAS Imagine, QGIS, SNAP, ArcGIS, ENVI, C, C++, Microsoft Office (Word, Excel, Powerpoint)

bhavna8295@gmail.com

BHAWNA YADAV

Qualifications

M.Sc (Environmental Sciences) B.Sc (Hons.) Biotechnology

Area of Interest

Biomass Assessment, Habitat Suitability Analysis, Carbon Sequestration, Forest Fire assessment, Eutrophication detection, Environmental Impact Assessment, Forest Spatial Ecology, Climate-Change Ecology, Debris accumulation estimation in wetlands, Biodiversity assessment and conservation.

Software Skills

Python, R, ERDAS imagine, QGIS, SNAP, ArcGIS, Google Earth Pro, Adobe Photoshop, Microsoft Office (Word, Excel, Power Point)

cyrilmj0@yahoo.com

CYRIL JOHN

Qualifications

PGD in Remote Sensing and GIS (specialization in Water Resources)
B.Tech (Civil Engineering)

Area of Interest:

Integrated Flood management, Hydrologic and Hydrodynamic modelling, Flood routing, Storm water and Watershed management, Microwave remote sensing, Environmental Impact Assessment, Glaciology, Remote sensing applications for Environmental Engineering, River basin management, Climate change, Sustainable Engineering, Civil Engineering and Architecture.

Software Skills:

R, Python, ERDAS Imagine, QGIS, ArcGIS, AutoCAD, Google Earth Engine, MS Office, ILWIS, SWMM, BRAT, CROPWAT, HEC-HMS,HEC-RAS

debolina.m14@gmail.com

DEBOLINA MONDAL

Qualifications:

PGD in Remote Sensing And GIS (Specialization: Agriculture and Soils)
M.Sc. (Agriculture): Agricultural Meteorology
B.Sc: Agriculture

Area of Interest

Agricultural Meteorology, Climate Change and its Impact, Weather Forecasting, Coastal Agriculture, Crop Classification, Crop Phenology Study, Fxtreme Weather Condition in Agriculture, Crop damage study, Land Use and Resource Assesment, Soil mapping, Soil Water Balance, Artificial Intelligence in Agriculture.

Software Skills

R, Python, ArcGIS, QGIS, SAGA GIS, Envi, ERDAS Imagine, Snap, Google Earth Engine, Microsoft Office.

divyamhalaskar@gmail.com

DIVYA BALASAHEB MHALASKAR

Qualifications:

PGD in Remote Sensing and GIS (specialization Natural Hazard and Disaster Risk Management)
M.Sc. (Environmental Science) from Savitribai Phule Pune University, Pune
B.Sc. (Zoology) from Nowrosjee Wadia College, Pune

Area of Interest

GIS application, Coral Reef Monitoring, climate change, Natural hazard and disaster mapping, Forest Fire, Cyclone

Software Skills

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

jessteron5@gmail.com

JESSICA TERON

Qualifications:

PGD in Remote sensing and GIS (Specialization: Natural Hazards & Disaster Risk Management)
M.Sc. (Disaster Management)
B.Sc. (Economics, Mathematics & Statistics)

Area of Interest:

Applications of Remote Sensing and GIS in Disaster Management and Emergency Supply Chain Operations, Natural Hazard Zonation Mapping, Risk Assessment and Mitigation, Sustainability and Climate Studies, Site suitability & Environment Impact Assessment.

Software Skills:

ArcGIS ERDAS Image processing software. Open-source software and applications such as R-studio QGIS. Microsoft Office Suite (Word, Excel, PowerPoint). Python (QGIS). Satellite imagery and working with DEM and LIDAR data, SPSS, Atlas ti, Canva and Adobe Photoshop.

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KAVITA ANIL MALVIYA

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, GIS and Applications, Hyperspectral and Thermal Remote Sensing, GPS, GNSS/ IRNSS, Digital Cartography, Digital Photogrammetry, Aerial and Satellite Photogrammetry, LiDAR and RADAR, Quantum radar, Quantum Computing for Earth Observation and Remote Sensing, Quantum Image Processing.

Software Skills

Skilled in Programming Languages like Python, C, C++, R. Image processing and Analysis software like ERDAS Imagine, SNAP, ENVI. QGIS for Mapping, Origin for Scientific graphing and analysis, Microsoft Office (Word, Excel, PowerPoint).

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KRISHNA PRADHAN

Qualifications

PGD in Remote Sensing & GIS (Specialization: Geosciences)
M.Sc. in Geology (2020-2022)
B.Sc. in (Hons.) Geology, Physics, math (2017-2020)

Area of Interest:

Application of Remote Sensing and GIS in Ground Water and Oil Exploration, Mineral Exploration, Planetary Sciences, Natural Hazard and Disaster Management, Seismology, Geomorphology, Structural Geology, Urban Heat Island and its Mitigation, Geodynamics and Plate Tectonics, Water Resource Management, Engineering Geology.

Software Skills

Python, R studio, ArcGIS, QGIS, ERDAS Imagine, Google Earth Engine, Google Earth Pro, ENVI, SNAP, MATLAB, SQL, MS office, origin pro

kusumendrajr08@gmail.com

KUSUMENDRA J R

Qualifications

PGD in Remote Sensing & GIS (Specialization: Forest Resources & Ecosystem Analysis)
B.Sc. in (Hons) Forestry (2018-2022)

Area of Interest

Remote Sensing and GIS Applications in Forest Mapping and Monitoring, Biomass Assessment, Forest Ecology-Species Mapping and Monitoring, Forest Fire Monitoring and assessment, Wildlife Management, Microwave and LIDAR Remote sensing.

Software Skills

Google Earth Engine, QGIS, ArcGIS, ERDAS Imagine, Google Earth Pro, ENVI, SNAP, Python, R studio, MS office.

mahaswetha2018@gmail.com

P. MAHASWETHA

Qualification

B-Arch

Area of Interest

Remote sensing and its applications, Photogrammetry, Digital image processing, Satellite Photogrammetry, Settlement Planning, Urban sprawl, Lulc modelling and analysing,3D GIS modelling and visualisation, Urban fabric, Urban growth models, Slum development, Urban heat island, Solid waste management.

Software Skills

Autocadd, sketchup-Vray, Enscape, Lumion, Adobe-photoshop, ArcGIS,ERDAS, O-SNAP,ENVI, Q-GIS, Python, R-programming, Microsoft (word, excel, powerpoint), eCognition, Google Earth Engine, Fragstats, (DRIS)

maulikpandey107@gmail.com

MAULIK PANDEY

Qualifications

PGD in Remote Sensing & GIS (Specialization: Geosciences),
M.Sc. in Geology (2020-2022)
B.Sc. in Geology, Chemistry and Zoology (2017-2020)

Area of interest

Application of Remote sensing in Groundwater Hydrology, Planetary Geology, Cryospheric studies, Ore and Exploration Geology, Landslides and Geohazards, Climate change, Geomorphology, Hyperspectral remote sensing, Geodynamics and Plate tectonics and Palaeontology.

Software Skills

Python, R studio, ArcGIS, QGIS, ERDAS Imagine, Google Earth Engine, Google Earth Pro, ENVI, SNAP, SQL, Latex and MS office.

priyam24khd@gmail.com

PRIYA.M

Qualifications

M.Arch (Urban design), B.Arch

Area of Interest

Placemaking, Urban and Regional Planning- Urban design, Urban Area Analysis, Sustainable City Planning, Transportation planning, Master plan, Land use Mapping and Planning, environmental impact assessment, Cartography, Image processing

Software Skills

QGIS,ERDAS Imagine, ArcGIS, Google Earth Engine, Google Earth Pro, REVIT, Auto CAD, Sketch up, Lumion, Python, Adobe CC, MS Office, Fragstats, (DRIS), eCognition

sarathrkrish1815@gmail.com

SARATH R

Qualifications

PGD in Remote Sensing and GIS (specialization in Urban and Regional Studies)
M.Sc. (Geography)
B.Sc. (Geography)
Honors Diploma in Computer Hardware and Networking

Area of Interest

Urban Planning, Urban green space studies, Geomorphology, Geoinformatics, 3D GIS, Web GIS, LiDAR, Cartography, Applied geography, Modern Surveying, Image processing, Teaching, Urban growth modelling

Software Skills

R, Python, ERDAS Imagine, ENVI, QGIS, ArcGIS, Google Earth Engine, SNAP, SPSS, IDRISI, E-Cognition, Fragstats.

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SOMDEEP KUNDU

Qualifications

PGD in Remote Sensing and GIS (Specialization: Natural Hazards and Disaster Risk Management)
B.TECH. (Civil Engineering)

Area of Interest

Climate Action, Sustainable Development, Risk Assessment and Disaster Mitigation, Spatial Computing, Spatial Data Mining, 3D Reconstruction, BIM, LiDAR Photogrammetry, NuRFs, UAV, Automation, AR-VR-MR, Internet GIS, Spatial Data Privacy, GIS Social Studies, Bio-mimicry, GIS Archeology, Poetry.

Software Skills

R Studio, C, Python, ArcGIS, QGIS, ENVI, ERDAS IMAGINE, SNAP, Google Earth Engine, HTML, Google SketchUP, AutoCAD, Blender.

sonymolvk@gmail.com

SONYMOL V K

Qualification

PGD in Remote Sensing and GIS
(Specialization: Spatial Data Science)
M.SC. Physics (Electronics)
B.SC. Physics(Electronics)
Diploma in Computer Application(DCA)

Area of Interest

Data Science, GIS application, Machine Learning, Image Analysis, Data Mining, Artificial Intelligence, Deep Learning, Remote Sensing

Software Skills

Python, R, C, C++, PostgreSQL, QGIS, ArcGIS, ERDAS Imagine, ENVI, Google Earth Engine, SNAP, Microsoft Office(Word, Excel, PowerPoint), Machine Learning, Deep Learning

tamsheelansari1@gmail.com

MD TAMSHEEL ANSARI

Qualifications

PGD in Remote Sensing & GIS
(Specialization: Satellite Image Analysis & Photogrammetry)
M.Sc. in Physics (2020-2022)
B.Sc. in (Hons.) Physics (2017-2020)

Area of Interest

Satellite Image Processing Aerial and Satellite Photogrammetry, LiDAR, Planetary Science, Planetary Topographic Mapping, Radar Planetary Sciences, SAR & Hyperspectral Remote Sensing, GIS and Applications, Crime GIS, GPS, Digital GIS Mapping, Machine Learning, Deep Learning, Digital Image processing.

Software Skills

Python, R studio, Fortran, ArcGIS, QGIS, ERDAS Imagine, Google Earth Engine, Google Earth Pro, ENVI, SNAP, MATLAB, SQL, Origin Pro, Latex, MS office, Machine Learning, Deep Learning

vkmmaurya34@gmail.com

VIKAS KUMAR MAURYA

Qualifications

PGD in Remote sensing and GIS
(Specialization: Geosciences)
PGD in Petroleum Exploration
M.Sc. (Geology); B.Sc. (Geology)

Area of Interest:

Application of Remote Sensing and GIS in Ground Water Hydrology and Oil Exploration, Mineral Exploration, Water Resource Management Hydrology Natural Hazard and Disaster Management, Seismology, Geomorphology, Petrology, Structural Geology, Natural Hazard Zonation Mapping, Risk Assessment and Mitigation. GIS and Applications, Remote sensing, GPS, LiDAR, Cartography, Planetary Topographic Mapping, Digital GIS Mapping, Site suitability SAR & Hyperspectral Remote Sensing, Environment Impact Assessment, GNSS/IRNSS Study, Radar Planetary

Software Skills:

ESRI suite of applications (ArcMap, ArcGIS Pro, Arc Scene, ArcGIS Online and Collector etc.), SNAP, ENVI and ERDAS Image processing software. Open-source software and applications such as R-studio, QGIS, SAGA GIS and Google Earth Pro. Microsoft Office Suite (Word, Excel, PowerPoint). Python (arcpy) and Python console (QGIS) script to automate workflows in GIS. Familiar with Tableau, MATLAB, AutoCAD. Satellite imagery and working with DEM and LIDAR data, Google Earth Engine

vishwanathboopathi@gmail.com

VISHWANATH BOOPATHI

Qualification

PGD in Remote Sensing and GIS
(specialization: Marine and Atmospheric Sciences).
PGD in Scuba Diving.
M.Sc. Oceanography and Coastal Area Studies.
B.Sc. Physics

Area of Interest

Coastal processes, Coral and Mangrove ecosystem, Coastal geomorphology, Marine biophysical interaction, Physical Oceanography, Biological Oceanography.

Software Skills

Java script, Python, R, QGIS, ArcGIS, ERDAS imagine, ENVI, SNAP, SeaDAS, Google Earth Engine.

Sports Facilities at IIRS Campus

Badminton Court

Outdoor Gym

TT/ Billiards

Volleyball Court

The Golden Jubilee Hostel

The Golden Jubilee Hostel (GJH)

All Weather Swimming Pool (GJH)

Exhibition Area (GJH)

Indoor Gym (GJH)

Various Other Hostels at IIRS

Vikram Sarabhai Hostel

Godavari Hostel

Alaknanda Hostel

Yamuna Hostel

View of IIRS Campus

Main Gate (Outside View)

Main Gate (Inside View)

Security Gate

Main Building Entrance

Major Supporting Facilities at IIRS

Picture Gallery

Central Dining Facility at IIRS Campus

IIRS Library

Aryabhatta Lecture Theatre

IIRS Auditorium

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Ms. Lakshmi for M.Sc-GI

Mr. Rachit for PGD-GI

Ms. Jessica Teron for PGD

N.B. :

- *Credentials and Abstract details about students in this placement brochures are self declared by the respective student only.*
- *PPEG has initiated preparing the Placement Brochure and posting it on website for open access so as to enable direct access by companies for the respective students. Placement exercises are very subjective & based upon T&Cs, agreeable to students & employer as applicable.*

इसरो ISRO

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Azadi Ka Amrit Mahotsav

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