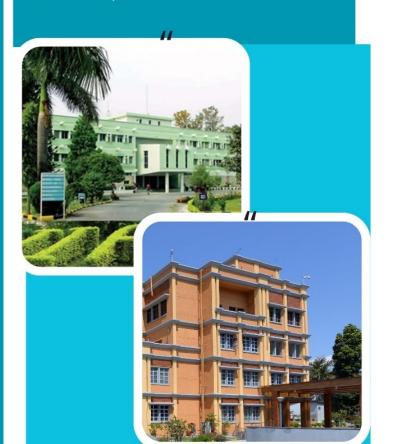## ELIGIBILITY AND HOW TO APPLY

- Master's Degree in science or Bachelor's degree in engineering or equivalent qualification relevant to the course objectives with at least 03 years of experience in teaching/research or professional experience in the field of geospatial technology, computer science, geography, mathematics, software development and related fields.

- For candidates with higher qualifications, the minimum experience may be relaxed. Basic knowledge in mathematics and / or statistics is essential. The course will be conducted in English language, the candidate should have proficiency in English language.

- Applicants are requested to register online by opening the admissions portal at www.cssteap.org or https://admissions.cssteap.org/login. They are advised to read each and every instruction before applying online.

- https://admissions.cssteap.org/uploads/cssteap
- _online_short_course.pdf

- The application should be duly forwarded by the Head of the applicant's organization for consideration. There is no course fee for applicants applying through proper channel. Link for lectures will be shared with selected applicants in due course. Applicants are advised to check the website/portal www.cssteap.org regularly for further updates/information

Announcement of course: April 01, 2025
Last date for receipt of application
May 15, 2025.

COURSE CONTACT DETAIL

Dr. Harish Karnatak
(Course Director)
(Email: harish@iirs.gov.in; Ph: +91-135-2524332)
Dr. Poonam Seth Tiwari & Dr. Kamal Pandey
(Course Coordinator)
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Indian Institute of Remote Sensing
4, Kalidas Road, Dehradun-248001,
Uttarakhand, India

Geocomputation and Data Science

▶▶ SHORT TRAINING PROGRAM

July 14-25, 2025

INTRODUCTION

GeoComputation is the use of computer processing to solve geographic problems. It involves application of computer technology to spatial problems, including problems of collecting, storing, visualizing, and analyzing spatial data, and of modeling spatial system dynamics. Data science is an interdisciplinary field focused on extracting knowledge from typically large data sets and applying the knowledge and insights from that data to solve problems in a wide range of application domains.

ABOUT

▷ CSSTEAP

CSSTEAP was established in India in November 1995 with its headquarters in Dehradun and over the past 27 years, the center has emerged as a Centre of Excellence in capacity building in the field of space science and technology applications. The 1st campus of the Centre was established at Dehradun, India and is hosted by Indian Institute of Remote Sensing (IIRS). CSSTEAP has been imparting training and educational programmes related to RS&GIS, Satellite Communication, Satellite Meteorology, Space Science, Global Navigation Satellite Systems, and Small Satellite Mission, helping participants in developing research skills through its Master Degree, Post Graduate and Certificate programms.

▷ IIRS

IIRS (established in 1966), a constituent unit of Indian Space Research Organization (ISRO), is a key player for training and capacity building in geospatial technology and its applications through training, education and research in South-east 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.

OBJECTIVE OF THE COURSE

This training program builds capacity in Geoinformation and analysis through a "Geocomputation and Data Science" course, targeting students and professionals experienced in mathematics, statistics, computer science, remote sensing, image analysis, geoinformatics, or related fields. Covering geospatial technology, GIS data analysis, image processing, Python, GEE cloud computing, online data resources, data science, machine learning for geodata, deep learning, generative AI/LLMs, super-resolution, and simulation/modeling, the course equips participants to effectively utilize geocomputation and data science for analyzing and interpreting geographic data for informed decisions.

▷▷ COURSE CONTENTS

LECTURE DETAILS

- Overview of Geospatial Technology
- GIS data Analysis
- Overview of Image Processing
- Overview of Python
- Cloud Computing using GEE
- Online Data Resources
- Overview of Data Science
- Machine Learning for Geodata Analysis
- Concept of Deep Learning
- Overview of Generative AI and LLM
- Concept of Super resolution
- Simulation and Modelling Approaches

PRACTICAL DETAILS

- Image Processing with Open Source tools
- GIS analysis with Open Source tools
- Non-Spatial Data Analysis using Data Science Approach
- Geoprocessing using Python
- Working with GEE