# MANOJKUMAR M | 22CL60R19

## EARTH SYSTEM SCIENCE AND TECHNOLOGY

## EDUCATION

| Year | Degree/Exam | Institute | CGPA/Marks |
|---|---|---|---|
| 2024 | M.TECH | IIT Kharagpur | 7.18 / 10 |
| 2016 | B.E. | ANNA UNIVERSITY | 6.79 / 10 |
| 2012 | INTERMEDIATE EXAMINATION | TAMILNADU STATE BOARD | 85.12% |
| 2010 | SECONDARY SCHOOL CERTIFICATE | TAMILNADU STATE BOARD | 86.2% |

## PROJECTS

### Watershed Delineation Using QGIS

• Extract Elevation Data:Use Google Earth Pro to gather information about Hogenakkal's location and acquire elevation data from satellite.
• Generate a Digital Elevation Model (DEM) in QGIS or ArcGIS from the acquired elevation data and Utilize QGIS or ArcGIS tools to delineate watersheds based on the DEM.
• Calculate Strahler orders for streams using appropriate tools in QGIS or ArcGIS
• Create a channel network based on Strahler orders for better visualization and analysis in QGIS or ArcGIS

**Assessing the Impact of Meteorological Drought on Hydrological and Agricultural Drought (MTP)**

.• Assess meteorological drought using indices like the SPI to quantify precipitation deficits over specific time scales.
.• Utilize NDVI to monitor changes in vegetation health and growth, providing insights into the impacts of meteorological drought on agricultural productivity.
• SWI to assess reductions in surface water and groundwater availability, linking meteorological drought to hydrological impacts.

## INTERNSHIPS

### Watershed Management with Geospatial Data Analysis

.• Demonstrated competence in handling remote sensing data using QGIS, including raster and vector analysis techniques.
.• Acquired expertise in processing and interpreting geospatial data to support watershed management activities.
.• Proactively sought out new knowledge and techniques, reflecting a determined attitude to continually expand skills and adapt to evolving technologies.

## SKILLS AND EXPERTISE

• **Programming Language:** Python   **Softwares:** QGIS, ArcGIS, ENVI, Google Earth Pro, Microsoft Excel
• **Technical skills:** Machine Learning, Statistics and Math
• **Soft skills:** Leadership, Written and oral communication, Presentation skills, Team Player, Critical thinking

## CERTIFICATIONS

### Introductory Remote sensing and GIS with QGIS

• Learned Georeferencing, Digitization, and other tasks of image processing systems through **QGIS** and **Google Earth Pro**

### Complete Python Devoloper in 2023: Zero to Mastery by Udemy

• Learned Object Oriented Programming, Function Programming,Machine Learning with Python,Data Science - Analyze and Visualize Data

## COURSEWORK INFORMATION

• Satellite Remote Sensing I Data Analytics Lab I Emotional Intelligence | Computational Methods I Design Lab | Carbon Cycle and Global Climate Change | Tectonics and Fluvial Dynamics | Science of Happiness and well being

## AWARDS AND ACHIEVEMENTS

•Secured **97.44 Percentile** in GATE (CE) 2019

## EXTRA CURRICULAR ACTIVITIES

• **Cycling enthusiast**- Occasionally I do long cycling, and recently I did 210 km cycling from IIT Kharagpur to Digha Beach up and down.
• **Physical training-**discipline in gym going and swimming and occasional running.
•Playing and watching cricket.

## POSITIONS OF RESPONSIBILITY

### Maintenance Secretary II LBS Hall of Residence II IIT Kharagpur II

• supervised scheduling, ordering, and inventorying parts for various products and this includes calling vendors, contacting the manufacturer, and receiving parts.