Kushal KC

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📍 Malpi-08, Panauti, Kavrepalanchok, Nepal
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PROFILE

A dedicated Geomatics Engineer and Satellite Data Analyst with a passion for GIS Mapping and Remote Sensing. Currently pursuing a Bachelor's degree in Geomatics Engineering at Kathmandu University. While working at Antarikchya Pratisthan Nepal I was experienced in satellite data processing, spatial analysis and map creation.

EDUCATION

Kathmandu University (KU) | Dhulikhel, Kavrepalanchok, Nepal   *2025 – Expected 2029*
Bachelors of Engineering in Geomatics Engineering (Be-GE)
Website: geom.ku.edu.np/

Nepal Banepa Polytechnic Institute (NBPI) | Banepa-05, Kavrepalanchok, Nepal   *2019 – 2023*
Diploma in Geomatics Engineering (DGE)
Website: nbpi.edu.np/
Aggregated Score: 77.86%
Key Modules: Surveying, Remote Sensing, Geographic Information Systems, Photogrammetry

Arunodaya English Secondary School | Panauti-4, Kavrepalanchok, Nepal   *2006 – 2019*
Secondary Education Examination (SEE)
Aggregate Grade: 3.85

EXPERIENCE

Antarikchya Pratisthan Nepal | Lazimpath, Kathmandu, Nepal   *August 2023 – September 2025*
Satellite Data Analyst | GIS Mapping
Website: antarikchya.org.np/
Email: kushal@antarikchya.org.np
Collaborative projects with **Kathmandu Metropolitan City (KMC)**

**Asian Institute of technology | Paholyothin Highway, Klong Luang, Pathum Thani 12120
Thailand (remote)**   *March 2024 – August 2024*
Remote Sensing Analyst | GIS Mapping
Collaborative projects with **Dr. Ranadheer Mandadi**

NAXA | Maharajgunj-3, Kathmandu, Nepal   *June 2023 – July 2023*
GIS Analyst
Website: naxa.com.np/
Email: kushal.naxa@gmail.com
Collaborative projects with **Changunarayan Municipality and National Disaster Risk Reduction and Management Authority (NDRRMA)**

PROJECTS & RESEARCH

Satellite Data Analytics Project (SDAP)   *August 2023 – September 2025*
Satellite Data Analyst | GIS Mapping
As part of the Satellite Data Analytics Project (SDAP), I have been actively engaged in leveraging satellite data and GIS mapping techniques for various critical tasks. My responsibilities include assessing flood damage in the Sapta Koshi, monitoring environmental changes in the Chure region, visualizing data related to earthquakes and forest fires, and conducting dynamic population density mapping. I have also contributed to the development of disaster protocols at Antarakchya Pratisthan, focusing on susceptibility mapping for floods and urban fires, utilizing Web GIS tools such as Leaflet.js, Mapbox, and MapTiler for map visualization purposes, while ensuring preparedness and effective response strategies.
Link: https://antarikchya.org.np/visualize.php

- **ArcGIS Pro, QGIS, HEC-HMS, Google Earth Pro, Google Earth Engine (GEE), WebGIS, Php**

Space-enabled Urban Solutions in Nepal (SUSN)   *August 2023 – July 2024*
Satellite Data Analyst | GIS Analyst
Playing a crucial role in the Space-enabled Urban Solutions in Nepal (SUSN) project, I've closely collaborated with Kathmandu Metropolitan City (KMC) departments, including the City Planning Commission (CPC), Disaster Management Department (DMD), Traffic Management and Road Safety Department, and Environment Management Department (EMD). Utilizing geospatial technologies, I've analyzed satellite data and conducted tailored land use classification. Working with both a dedicated team and various KMC departments, I've gained a comprehensive understanding of departmental needs. This understanding has enabled me to deliver GIS maps that facilitate informed decision-making for urban development and disaster risk management.
Link: https://www.kmc.antarikchya.org.np/
- **ArcGIS Pro, QGIS, AutoCad, Google Earth Pro, Google Earth Engine (GEE), Python**

Land Use/Land Cover Classification and Future Prediction   *March 2024 – August 2024*
Remote Sensing Analyst | GIS Mapping
Engaged in collaborative projects with Ranadheer Reddy at the Asian Institute of Technology in Thailand. Specifically involved in the Land Use/Land Cover Classification and Future Prediction project, utilizing Google Earth Engine (GEE) for LULC mapping and TerrSet 2020 for predicting future LULC changes over time.
- **ArcGIS Pro, Google Earth Engine (GEE), TerrSet2020**

Changunarayan Municipality   *June 2023 – July 2023*
GIS Analyst
Contributed to the digitization project in Changunarayan Municipality, assisting in the manual digitization of buildings using high-resolution drone data. Additionally, participated in the road network analysis to determine road directions, ensuring accurate spatial data for urban planning.
Link: https://changu-stag.naxa.com.np/
- **ArcGIS Pro, QGIS**

National Building Exposure   *June 2023 – July 2023*
Contributed to the National Building Exposure project by working as a building digitizer. Implemented manual digitization techniques to accurately capture building footprints, contributing to the creation of a comprehensive building exposure database.
Link : https://exposure.ndrrma.gov.np/
- **ArcGIS**

Impact on COR Station due to Gorkha Earthquake 2015   *November 2022 – March 2023*
GIS Analyst
This is the final year project for my Diploma degree, I utilized UNAVCO to gather control point data, which was then processed. The processed data was visualized using ArcGIS. The project focused on investigating the impact of the Gorkha Earthquake in 2015 on COR Station, specifically identifying the shift of control points caused by the Gorkha Earthquake 2015.
- **ArcGIS, UNAVCO**

Topographical and Cadastral Surveying | Jiri, Nepal   *November 23 – December 02, 2023*
Participated in topographical and cadastral surveying in Jiri, Nepal. Utilized DGPS to establish control points and employed total stations and prisms for various surveying tasks, including projects related to hydropower, routes, transmission lines, bridges, and canals. Processed the collected data and visualized it using ArcGIS.
- **ArcGIS, Total Station (TS), Differential Global Positioning Systems (DGPSs), Prism, Measuring Tape**

CONFERENCE AND PAPERS

"Monsoon Flood Impact Analysis of Nepal's most populous and Capital City, Kathmandu"
and "Sapta Koshi Flood: Turning Risk into a valuable opportunity"
Innovation and Transformation in the Development Effort through Science, Technology and Governance | Kathmandu, Nepal   *May 17 – 19, 2024*
Link: https://www.mitrakunj.org.np/international-conference/

NYC Scientists' Conference 2081 | Jawalakhel, Lalitpur   *June 19, 2024*

Link: https://www.ran.org.np/

TRAINING

Google Earth Engine - Hands-on skills in satellite data analysis and geospatial processing using the cloud-based Earth Engine platform.

Basic QGIS - How to visualize, analyze, and create maps using QGIS, including adding layers, styling maps, and performing basic spatial analysis like clip, buffer.

HEC-RAS & HEC-HMS - Performed rainfall-runoff modeling using HEC-HMS and simulated flood inundation maps using HEC-RAS for hydrologic and hydraulic analysis.

CERTIFICATIONS & PARTICIPATIONS

- IEEE International Geoscience and Remote Sensing Symposium - Manuscript Accepted
  March 16, 2024
- Honorable Mention for Compelling Visuals winner for NASA's Pale Blue Dot: Visualization Challenge:
  https://drivendata-public-assets.s3.amazonaws.com/nasa-open-science-gallery/nayan.bakhadyo/visual.png *March 14, 2024*
- Space Con 2024, Lalitpur, Nepal *April 12, 2024*
- Space Con 2025, Kathmandu, Nepal (https://spacecon.antarikchya.org.np/) *April 11, 2025*
- Training on Python *June 16 – 26 , 2023*
- Training on OpenStreetMap *August 17 – 18, 2022*
- Training on AutoCad *November 07 – 08, 2023*
- Training on Web GIS *December 2023 – February 2024*
- Training on Google Earth Engine *January 18 – May 02, 2024*
- Training on Land Use & GIS for Technical Personnel of Municipalities within Kathmandu Valley *January 29, 2024 – February 2, 2024*
- Training on Advanced 30DayOfQGIS *May 13 – June 11, 2024*
- Training on PyQGIS Masterclass *July 15 – August 9, 2024*
- Esri MOOC

SKILLS

- Project management
- ArcGIS Pro
- WebGIS
- Autocad
- HEC-HMS
- ERDAS Imagine
- SNAP Desktop
- Microsoft Office
- TerrSet 2020
- Total Station
- Differential Global Positioning Systems

- Communication
- QGIS
- ArcGIS
- Google Earth Engine
- HEC-RAS
- ENVI
- Python
- HTML/CSS/JS
- PHP
- Theodolite
- Plane Table

WORK REFERENCES

- **Dr. Abhas Maskey**
  - Founder | Managing Director, Antarikchya Pratisthan Nepal
  - Email: abhas@antarikchya.org.np
  - Phone: +977 9869397707

- **Prof. Ramesh Kumar Maskey**
  - Academician, Nepal Academy of Science and Technology (NAST)
  - Email: rmaskey@ku.edu.np
  - Phone: +977 9851102669

- **Anukul Nidhi**

- ○ Assistant Traffic Engineer, City Planning Commission, Kathmandu Metropolitan City
  ○ Email: nidhianukul479@gmail.com
  ○ Phone: +977 9844417900

- **Sujan Nepali**
  ○ Geospatial Consultant at ICIMOD | Geomatics Instructor at NBPI
  ○ Email: nepsujan17@gmail.com
  ○ Phone: +977 9861291592