Prabin Gyawali

MSc Student in Geodesy and Geoinformation | Geospatial Data Analyst

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Profile

Motivated MSc student in Geodesy and Geoinformation at TUM with strong GIS and remote sensing background. Skilled in geospatial data processing (photogrammetry, remote sensing and LiDAR), analysis and map creation. Experienced in tools like ArcGIS Pro, QGIS, and Python automation. Passionate about sustainable development, energy transition, and urban planning support through spatial technologies.

Experience

Research Assistant, *Technical University of Munich, Germany* 11/2023 – Present
- Processed large-scale LiDAR and imagery datasets for digital twin modeling.
- Applied deep learning for 3D modeling and point cloud analysis (TUM2TWIN, Zaha Dataset).
- Supported geospatial data management and map creation tasks.

Research Assistant, *Universität der Bundeswehr München, Germany* 04/2024 – 07/2024
- Generated nDSM layers from raster data for 20+ urban areas.
- Developed automated workflows using QGIS and Python.
- Conducted data digitization, review, and update for urban 3D mapping

Lead Engineer – Remote Sensing, *Dronepal Pvt. Ltd., Nepal* 03/2021 – 08/2023
- Led 25+ geospatial projects involving photogrammetry, urban planning , mega development projects (express way, hydropower and solar power plants), land-use analysis, and environmental monitoring.
- Streamlined map creation workflows and GIS data cleaning operations.
- Managed a team and liaised with clients including the World Bank, FAO, and ADB.
- Capacity building and trainings on ArcGIS and QGIS to policy and decision makers .

Geospatial Engineer, *Diginirmaan Engineering, Nepal* 07/2019 – 02/2021
- Conducted raster processing, vectorization, and technical map production.
- Delivered GIS map preparation, documentation and training support.

Trainer – GIS for Disaster Response, *World Food Program / Nepal Flying Lab* 10/2019 – 11/2019
- Delivered ArcGIS training for humanitarian professionals.
- Focused on disaster preparedness and spatial data handling.

Education

MSc. Geodesy and Geoinformation, *Technical University of Munich, Germany* 10/2023 – Present
Focus: GIS, Remote Sensing, Spatial Data Analysis, GNSS and Navigation

BEng. Geomatics Engineering, *Kathmandu University, Nepal* 12/2019
Focus: GIS, Spatial Database Management, Cartography and Visual Analytics, Photogrammetry and Remote Sensing
Thesis: Growth Monitoring and Yield Estimation of Maize using UAV Remote Sensing

Technical Skills

GIS Software
ArcGIS Pro, QGIS, ArcMap, ENVI, SNAP

Frameworks
PyTorch, TensorFlow, OpenCV, Scikitlearn, Numpy, Pandas

Tools
Google Suite, Microsoft Office, Microsoft Project, Trello, Linux

Programming
Python, JavaScript, SQL, MATLAB

Geospatial Analysis
Pointcloud Processing and Analysis, Spatial Data Analysis, Remote Sensing, Land-use Mapping, Map Design and Atlas production, Geospatial Infographic Data visualization

Languages

English
Advanced (C1)

German
Elementary (A2)

Nepali
Native

Hindi
Intermediate (B1)

Relevant Coursework

Spatial Visual Analytics, GIS, Remote Sensing, Pointcloud Processing, Geovisualization, Machine Learning and Computer Vision , Digital Image Processing

Leadership & Volunteering

Humanitarian Mapping Volunteers Forum, *Project Lead- Map for a cause* 2022 – 2023

Space Generation Advisory Council, *National Point of Contact* 2017 – 2021

Geomatics Engineering Society, *Executive Member* 2018 – 2019

Kathmandu University Student Welfare Council, *Board Member and Events Lead* 2018 – 2019

Publications

To Glue or Not to Glue? Classical vs Learned Image Matching for Mobile Mapping Cameras to Textured Semantic 3D Building Models, 2025
13th international Symposium On Mobile Mapping Technology (MMT 2025)
Awarded Best Paper

The Fundamental Role of GNSS in Modern Surveying and Mapping, 2024
FIG Regional Conference 2024

Estimation of Above Ground Biomass and Carbon Stock using UAV Images, 2023
Journal on Geoinformatics Nepal

Using a GPS-enabled Body Area Network for Mountaineers in Nepal, 2018
69th International Astronautical Congress