

NIRUTA NEUPANE

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PROFESSIONAL SUMMARY

Geomatics Engineer specializing in geospatial data science, WebGIS, and spatial data engineering. Experienced in building scalable geospatial systems, processing large OpenStreetMap datasets, and applying remote sensing and spatial analytics to real-world problems. Interested in GeoAI, spatial big data, and data-driven geospatial modeling.

WORK EXPERIENCE

Geospatial Lead, Galli Express Pvt. Ltd., Kathmandu

(March 2025 - Present)

- Lead geospatial data management, WebGIS development, UAV imagery analysis, Map styling and spatial data pipelines supporting large-scale urban mapping and digital mapping initiatives.

Database & Backend Designer (OSMSG Project), OSGeo Nepal (part-time)

(February 2026 - August 2026)

- Designed scalable PostgreSQL-based geospatial database and backend workflows for processing and serving large-scale OpenStreetMap datasets and spatial analytics.

GIS Intern, Project 22-05 Laboratory, KU

(March 2024 - March 2025)

- Assisted in WebGIS layout design and thematic mapping, contributed to UAV survey planning and image analysis for urban mapping, and developed spatial analysis workflows in GEE and QGIS.

Open Mapping Guru, Humanitarian OpenStreetMap Team (HOT)

(November 2022 - Present)

- Mentored new OpenStreetMap contributors, facilitated mapping training sessions, and conducted quality assurance and validation for humanitarian mapping campaigns.

EDUCATION

Bachelor of Engineering in Geomatics Engineering, Kathmandu University, Nepal

Graduation: June 2025

Higher Secondary Education, Sagarmatha Secondary School

Graduation: 2019

TECHNICAL SKILLS

- Geospatial & Remote Sensing:**
QGIS, ArcGIS, Google Earth Engine, Remote Sensing, LiDAR/Point Cloud Processing, UAV Photogrammetry, Spatial Analysis, Cartography, Image Processing
- WebGIS & Spatial Data:**
MapLibre GL JS, Web Mapping, Vector Tiles, OpenStreetMap, PostGIS/PostgreSQL, GeoJSON, Spatial Databases
- Programming & Backend:**
Python, SQL, JavaScript, HTML/CSS, Django, REST APIs
- Data & Visualization:**
Pandas, spatial data processing, data visualization, statistical analysis

PROJECTS

Agricultural Heatwave Risk & Rainfall Hazard Analysis (FAO-supported assignment)

(2026)

- Conducted GIS-based spatial analysis to assess agricultural heatwave risk and rainfall hazards, identified vulnerable areas, and prepared hazard maps to support agricultural risk assessment.

Above-Ground Biomass and Carbon Stock Estimation: A Study of Subtropical Forest in Nepal Using Aerial and Mobile Laser Scanning

(2025) (Undergraduate Thesis)

- Estimated biomass and carbon stock using mobile and airborne LiDAR by processing point cloud data, applying allometric models, and performing GIS-based spatial analysis and visualization.

Smart Routing and Navigation Web Application

(2025)

- Developed a comprehensive web-based routing solution by implementing efficient pathfinding algorithms and integrating multiple data sources for enhanced navigation.

Interactive Utility Web Map | 2nd Place - Team Analytica

(2024)

- Developed a utility mapping solution for the Dhulikhel area using HTML, CSS, and JavaScript, creating interactive layer controls and attribute popups, implementing suitability analysis for transformer placement, and designing color-blind-friendly visualization systems.

WebGIS Data Visualization Platform with Road Accident Hotspot Analysis

(2024)

- Designed an interactive mapping platform with dynamic layers, integrated real-time weather and earthquake data, and developed visualization tools for amenities and spatial analysis.

Green Spaces and Air Quality: Mapping the Breath of Kathmandu

(2024)

- Analyzed NDVI and air pollutant patterns using Sentinel data in Google Earth Engine and presented the results through an interactive [story map](#).

LEADERSHIP AND PROFESSIONAL AFFILIATIONS

- Geospatial Lead, IT Meet (2024)
- OSM Trainer for Nepgeom and ILIKA event, KU (2025)
- NepGeom 2024, Organizer (2024)
- TedxKU, Volunteer (2024)
- Geofest, Women in Geospatial Nepal, Organizer (2024)
- Rapporteur, University Scholar Conference, KU (2023 and 2024)
- Geo Special September, IT Meet, Organizer (2023)
- Geomatics Engineering Society, Executive Member (2022-2023)
- Youth for Change, Kathmandu University, Executive Committee Member (2021-2022)

AWARDS, FELLOWSHIPS & PRESENTATIONS

- **Speaker:** State of the Map Asia, Paris (OSM Stats Generator) 2026
- **Poster Presenter:** State of the Map Asia, Manila 2025
- **Climate and Disaster Ready Fellowship:** Open Mapping Hub Asia Pacific 2025
- **OSM Grant Supporting Women Leaders:** Youth Innovation Lab 2024
- **Open Mapping Guru Fellowship:** Open Mapping Hub Asia Pacific 2024
- **First Runner-Up:** Utility Web Mapping Hackathon, GES 2024
- **First Runner-Up:** Field Mapping Task-Splitting Algorithm Hackathon, NAXA 2023
- **MoU Scholarship Holder:** Kathmandu University and Land Management and Training Center 2020

TRAINING & CONFERENCES

- LiDAR Training/Workshop | Food and Agriculture Organization of the United Nations (FAO) May 2026
- CIPA Heritage School Jan 2026
- State of the Map Asia Oct 2025
- Introduction to Deep Learning in Python July 2025
- Survey Practical Training | New Colombo Plan Mobility Program | Kathmandu University, LMTC & University of Southern Queensland Dec 2024
- University Scholar Conference Dec 2024
- Participated in Empowering Women in Geospatial Information Technology- 2024 Edition | ICIMOD July 2024
- Participated in Google Earth Engine Training | Geomatics Engineering Society Dec 2023
- OpenStreetMap and humanitarian mapping techniques | UN Mappers March- April 2022

REFERENCES

- Assoc. Prof. Dr. Subash Ghimire
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- Assoc. Prof. Dr. Reshma Shrestha
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- Assoc. Prof. Dr. Uma Shankar Panday Assistant Professor, Geomatics Engineering Kathmandu University, Nepal
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